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A Shilpi Speaks - 7

VĀSTU SHĀSTRA

– A SCIENTIFIC TREATISE –

By

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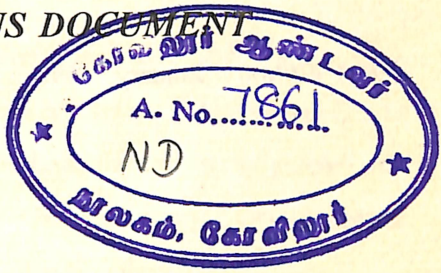
VĀSTU SHĀSTRA

– A SCIENTIFIC TREATISE –

NOT A RELIGIOUS DOCUMENT



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VĀSTU SHĀSTRA

A Scientific and Technological Treatise on

ART AND ARCHITECTURE

This book is a compendium of lectures delivered by Dr.V.Ganapati Sthapati, a traditional architect, builder and sculptor at various gatherings of contemporary engineers and architects, in India and abroad.

The main objective is to focus that the Vāstu Shāstra is not a religious document but a scientific treatise of universal applicability.

Vāstu Shāstra is based on the science of manifestation. It has recognised that the universe is subject to a mathematical formula and Architecture is yet another manifestation.

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ON THE INDIGENOUSNESS OF THE VĀSTU SHASTRA

Dr.S.P.Sabharathnam is a Professor of Agama, Vāstu and Vedas, having obtained his doctorate degree in Agama. He hails from the traditional family of Saivacharyas, who practice the principles of Agamas and Vedas in temples. He is proficient in Tamil, English and Sanskrit. He has also served as Professor of philosophy in the Madras University. The uniqueness about his scholarship is that he is open, unprejudiced and utterly honest in the critical remarks on our cultural sciences.

A systematic scriptural body containing within itself a number of authentic works such as Mayamata, Mānasāra, etc., goes by the name Vāstu Sāstra. This body originated of its own accord, without being influenced or supported by the Vedic texts or mythological works. The stray and scattered references to the principles of Vāstu found in the Vedas should be taken to indicate the existence of Vāstu tradition prior to the Vedic period itself. But unfortunately scholars hastened to conclude that these

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references are the seeds of the Vāstu tradition that sprouted during the later period. The nature of Sanskrit language as employed in the Vāstu Sāstras differs considerably from that employed in the Vedic texts. The Sanskrit of Vāstu Sāstras still retains the features of Prākrit. The grammar of Vāstu Sanskrit also is not that of Vedic grammar. The simplicity of the Vāstu language does not point to its emergence in the later period but it necessarily points to its uninterrupted and unbroken transmission from father to son or guru to disciples. To put it precisely Vāstu Sāstra is of an absolute independent origin dating beyond the Vedic period in which we are able to see the operational and applicational values of the Vāstu tradition.

On par with the Vāstu Shāstra, there is one more scriptural body comprising the Āgamas, specifically the Saivāgamas which are also prior to the Vedic period and which embody the directions related to execution and maintenance of the structural creations rendered according to the Vāstu Sāstra. While the science of manifestation is significantly dealt with in the Vāstu Sāstra, the science of maintenance is significantly dealt with in the Āgama Shāstra.

Both the Vāstu and Āgama Sāstras are science-based, not religion-based, even though they

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speak of the images and temples pertaining to various religions. This tone and tune are universal and eternal, not partial and provisional.

"Such a type of building is applicable to the kings, devas, brāhmanas, ascetics, buddhas, jainas and those who live by alms and live by their charm". This and similar types of directions appearing both in the Vāstu and Āgama Sāstras undoubtedly point to their universal characteristics. They are not confined to a particular religious life. Their main aim is to effect harmony between numanity and Nature. To effect such a harmony, they should be science - based but not religious or mythological.

In this present work, **Vāstu Shāstra** Vāstu Vijnāni Dr.V.Ganapati Sthapati, highlights the matchless characteristics of the Vāstu Shāstra and expounds the science behind the artistic creations and the architectural creations and the science of scale and designs which are beyond the knowledge and scope of sectarian systems. This is yet another work which proves the inimitable power of demystification being wielded by our Sthapati.

— Dr. S.P. Sabharathnam

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VĀSTU SHĀSTRA - A SCIENTIFIC TREATISE

– NOT A RELIGIOUS DOCUMENT –

The Vāstu shāstra is a technological treatise on building architecture or a book of grammar of visual forms that gives the practising designers and builders (shilpis) a good deal of guidelines in terms of numerical measures as also codes and rules to assimilate, adhere and bring into reality unique forms, not to be seen in other traditions of the world. So, this is actually a technological work but it is based on a unique science not known till date. This is because that in India, the technology has evolved out of science, not the science out of technology. Hence the confusion, prevailing even among learned critics about what it says, how it says and why it says.

THE SCIENCE UNDERLYING THE TECHNOLOGY OF VĀSTU IS A SCIENCE OF MANIFESTATION. IT IS A SCIENCE OF METAMORPHOSIS; IT IS A SCIENCE OF ENERGY TURNING INTO MATERIAL VISUAL FORMS AND AURAL FORMS. IT IS A SCIENCE OF VASTU (ENERGY) TURNING INTO VAASTU (MATERIAL ENERGY OR EMBODIED LIVE FORMS).

AS A RESULT, IT HAS BEEN DISCOVERED THAT THE UNIVERSE IS SUBJECT TO A MATHEMATICAL FORMULA AND ARCHITECTURE IS YET ANOTHER MANIFESTATION. THIS IS THE QUINTESSENCE.

Hence all material and visual objects created under the vāstu shilpa tradition are held to be sacred and worthy of being experienced for the physical welfare and spiritual

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wellbeing of human race. On this account, it is stated that the vāstu Shāstra is a scientific treatise, not a religious document. It is neither sectarian nor based on any personal belief or faith. It is basically scientific and hence universal. To be precise and pointed, I am proud to say, that this tradition of Vāstu has been serving Hindus and non Hindus for centuries together. It has remained and still remains open to all and hence relevant today and for all times to come. It has a bright future as well, if properly understood and followed. You would be surprised to hear that all the imagic forms worshipped in our temples are, therefore, common to the entire human race. On this account, the shilpis of India never came into conflict with any belief system or any section of human society. This is the case even today. **In fine, it must be observed that in India, science has been religion, in as much as music is science.**

The word religion is the most misunderstood and most misconstrued in India and abroad with the result it has earned a disrepute and even suffered condemnation at the hands of certain sections of the contemporary society. Since the Vāstu Shāstras were erroneously thought to be religion based the Vāstu tradition got marginalized and along with that, the traditional shilpis. Again I would say it is metaphysical, universally applicable and of a unique kind and to match with, no tradition exists on earth.

Such a noble exalted science is spoken of as something non- secular and racial by another section of the

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contemporary society and on this account not supportive to its re-emergence, development and service to humanity at large. This is suicidal.

As a sthapati, practising in this sacred tradition, I would like to discuss and disclose in this volume about the universality of the traditional science and technology of Vāstu and shilpa and about the need for immediate attention of the society for its recognition and promotion, as it would become extinct otherwise, and with it, our country's name and fame as the holder of a hoary culture and civilization from the very early times.

The knowledge of modern science, I believe, would help us to have easier access and quicker understanding of this unique science and even if this is not going to help us, then, I have to say that we would continue to remain to be a community of superstitious and sectarian type. Our sacred scriptures too will remain segregated from human life even if we speak and write in high terms without unravelling this science-base. So, I feel that it is my duty and proud privilege to expose to the younger generation, the facts of the sacred science guarded zealously by all shilpis of Bharat and handed down to us. I feel that it should be treated as a world heritage, as I am able to see its existence, though fragmental, in one form or the other, in the body of world cultures.

— V. GANAPATI STHAPATI

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VĀSTU SHĀSTRA

– A SCIENTIFIC TREATISE –

1

Some glimpses of the scholars' opinions on the Vastu Science and Vāstu Technologists

The scholars of the world, I would like to say at the outset, have almost exhausted every science of the East, that caused the emergence and development of culture and civilisation right from the Vedas down to the present day works. Similarly, archaeologists and historians of the world have made an extensive and intensive search into the monuments and artefacts, through visual studies, as well as documentation and laboratarical analysis. Inspite of enormous researches they have conducted, it may be observed, that it is incomplete in the sense that they have neither pinpointed the antiquity of the culture nor the essence of the cultural sciences that our

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forefathers have left behind. Their studies have always been superficial and physical because they are not aware of the existence of a unique science underlying the culture of the East, particularly of the Indian sub-continent. This science, in fact, starts from the limits of and lies beyond the physical sciences that the modern world is conversant with. The source of the sciences or their anchorage is yet to be known to the East and the West, merely because the rock-bottom and the crest of the traditional sciences are remaining invisible to the searching eyes. The story of the failure of Brahma (the four headed) and the Vishnu (the four handed) to reach the crown and the foot of the thread of a 'flame' that appeared before them, bespeaks of the end of the human endeavour and research into the core of our culture. Ofcourse, in one sense it is unintelligible and unidentifiable. Yet, it was possible for the men of pre-vedic days to identify and quantify the unlimited into a limited entity, by observing and analysing the visual and aural forms that we produce in day-to-day life. It was indeed a self enquiry into the inner phenomena and replication of the inner experiences

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into the outer world of reality, for all the human beings to respond and relax.

The results of the excavation, examination and assimilation of the dynamics of the inner and outer universes, carried out during the prevedic days, are recorded in our Vedas in the shape of mantras and sutras and also recorded in terms of numerical interpretation and visual representation into building forms as well as imagic forms. Not only they are presented to us in visual forms, but they are reproduced in aural forms as well. They are immortalised in other scriptures.

In the corpus of technical literature, there are two sciences that have not been fully understood nor their roots identified. On the contrary they are branded as superstitious and irrelevant in modern context. Inspite of repeated searches, (still the search is going on) the source of all this knowledge and wisdom is escaping their notice. This is because, the technologists handling the secretive sciences have not been approached by contemporary researchers with free mind and a mind free from complexes. What I mean to say is that the actual makers of the

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civilisation as well as makers of the culture are invariably ignored or looked at with scant respect and those who are well versed in the languages in which these sciences are couched, are alone approached and their interpretations listened to. I would like to say openly that this is something beyond language skill. The language has its own limitations that too in the interpretation of the technological aspects of performing arts, under which lies this science. When language fails, our hands have to take up the role and articulate in visual terms. The spirit of the language of forms is the spirit of our culture. The spirit or spiritual experience associated with the traditional sciences, is something that occurs and that is something that reveals itself only to the practitioner. A practitioner of this group of sciences can respond to the call of another practitioner of the same group. This is because the spirit itself is a practitioner, a performing artist.

There are two sciences under this category that have not been properly studied nor convincingly interpreted and their substantial contribution to the culture and civilisation frankly expressed and honoured.

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I would like to draw the attention of the Engineers and Architects as well as the Scholars that the two sciences that I have been keeping in mind are the sciences of Vaastu and Agama. They are the twin sciences of Bhārat with their antiquity and origin still remaining shrouded in mystery. Yet they live and going to live in the years to come. The values of the sciences are so infallible that they are bound to be accepted at global level, though of oriental origin. Today, it is not exaggeration, the focus of the world is on Vāstu.

I hope that an unprejudiced, unbiased, non sectarian and non- racial approach to these sciences would very soon reveal the essence of the two practical sciences, that have been lying dormant, though dominant they were, over the centuries, contributing enormously to the material and spiritual culture of the people of India. Again I have to say, that what is intriguing in this context, is the "rasika" is mistaken for the musician. The consumer is mistaken for the producer. This is so because, unlike elsewhere, the technology in India, has not paved the way for the emergence of science but it is the science that has paved the way for the evolution of

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technology. It may be theorised that it is not 'lakshaya' (இலக்கியம்) that paved the way for the emergence of 'lakshana' (இலக்கணம்) but it is 'lakshna' from which 'lakshaya' is evolved. This is Indian culture. The problem of approach to Indian culture should be viewed and tackled from this angle. Otherwise we would continue to grope in the dark.

Of the two sciences mentioned above, the agamic science, has received scholarly search and comments. But in this context the essence of this science has not been realised by the scholars. It is despised and dismissed as sectarian, religious and as something personal. According to Dr.S.P.Sabharathinam, an eminent scholar and a practitioner in the agamic tradition as also hailing from the line of Agamikas, has been repeatedly saying, in all the public forums, that the basic science of which the Agamas are anchored, is not brought to light by any of the scholars who went into the texts. In short, he adds, that the researchers read the texts but not the spirit. He also feels that mere proficiency in the language in which it is written, is not enough to understand the science and nuances of this technical tradition.

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He says that the scholarly interpretations are peripheral, not at all coming to the centre of consciousness of agamic lore. Further, he says conclusively, that as in the case of Vāstu, the agamas are technical and practical in their approach. Further, he says with open mindedness, that the language of Sanskrit employed to convey deeper values is separate from that of literary Sanskrit. It is again technical, factual and not literary and poetical. There is no element of exaggeration as in the case of Vastu Sanskrit, which is technological and scientific.

Similarly the translations and interpretations of the Vāstu texts by non technical scholars are very shallow and peripheral. On the contrary it is very encouraging to find out at the same time, that the technical scholars' approaches are satisfactory to a large extent. They deal, of course, with physical problems, they being practitioners, and waiting to apply them in the design process with immediate effect. This is because the today's society is much changed and the demand for the application of Vāstu principles is mounting high. But invariably, the technical and non technical scholars, did not

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question to themselves why in this tradition, the residential structures, temple buildings and imagic forms are much different from the products of their counterparts in the world and how they are able to bring peace and prosperity, to the dwellers as asserted by the traditionalists. In the same way, they do not even question why music and dance as also the poetry of Indian origin, are all far from their own traditional patterns and how they are able to enkindle ineffable joy and peace. Once upon a time the critical observations of Mamallapuram- sculptures, by the historians of the west, were something most unfair and snobbish. They said they are barbarous sculptures, though they appreciated the technological approaches and commended them as unique and wonderful. Today the opinion is reversed because, the artists of the West look at them from a different angle. According to them they are sculptures unsurpassed and matchless. The sculptures revealed themselves differently to them. This is because they go into the feeling-base, rather than into the material or physical aspects.

Man, with an atom of divine energy in him, has established his own spiritual domain on earth,

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rendering his own forms much more attractive than those of his own creator - the Creator of the universe. God made only man - the animate being - but man made the supreme being, our God, using the same technology of the divine master. Hence it is sacred and designated as Sthāpatya Veda. Therefore if they could find a logical or reasonable answer to such variations and comments thereon, then they would reach the very essence of the unique science on which the respective technological treatises are based.

I have been repeatedly saying in all the 25 seminars, I have participated during the year 1995, that there are five individual disciplines with a common science-base. They have been enjoying justifiably the status of individual Vedas and on that account I have been designating them as a pentadic group of sciences. They are as detailed below:

1. Vāk Vedam - இயல்
2. Gāndharva Vedam - இசை
3. Nātya Vedam - நடம்
4. Silpa Vedam - சிற்பம்
5. Vāstu Vedam - கட்டடம்

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The traditional shilpis of Tamilnadu hold these five branches of Veda as Pancha Marabu, meaning pentadic tradition. This is because, as observed earlier, all the five traditions have got a common science - base and that basic science is called the science of 'Time' and 'Space' as also 'rhythm and form'. Therefore, sometimes, I used to describe this group as Vedas in action. The wisdom of such a unique science, over the centuries, had remained only with the traditional practitioners, who paid more attention on technological practices and expressions rather than on the propagation of the science itself, with the result this science had to remain secluded. Further, this being a line of hereditary profession and livelihood for them, they devoted their time mostly on the creative endeavour rather than along propagative channels. I believe that this has been the case with all the traditional practitioners whether they belong to the disciplines of poetry, dance, or music. To this status, their answer is that it is an affair well settled longback and socially recognised as well. But here also the actual science-base lies burried deep. They also experience and elicit responses but do not

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articulate the logic behind. But fortunately, the facts of science, though not openly discussed in the technological treatises, are identified in various principles and codes that the shastras deal with in a mythological language under a unique numerical and mathematical system.

This science is particularly implied in all the numerical measures and structural details presented in the Vāstu texts. In this tradition, the inherent uniqueness is that numbers are abstractions of forms and forms are pictorial expression of qualities of nature expressed through visual and aural channels. Only very recently a kind of flutter is noticeable among the practitioners, to articulate their internal experiences.

There was a time when these traditional artists were looked down upon by our own society. On that account their professional status, career, ethics and every thing connected to their activities had suffered miserable set back. Now these creative geniuses are coming back to the forefront with their achievements appearing in the lime light. Further the line drawn by our own people between the moderns and the traditionals is collapsing, of late, due to the efforts of

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a section of the contemporary community of engineers and architects to understand and apply the traditional principles of Vāstu.

Only at this stage, certain scholars of today have expressed opinions of different shades on this particular Vāstu tradition and Vāstu technologists through their case- studies. They are very responsible people as well. I have enumerated over the discussions, certain sharp comments of the critics, for the general knowledge of other scholars and government bodies. I have added my own from the traditionalists' point of view.

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2

Conflicting views on the Ancient Indian Science of Vāstu

The Science and Technology lying behind the Vāstu Shilpa tradition is one of the most neglected subjects, though it is generally known that the contribution of this tradition towards the evolution of Indian civilization and culture, is not only substantial but exceptional in many respects. Hence this subject is very indispensable, rather, I would say, that it is the demand of the day as other wise, we would be branded, by the contemporary generation, as backward, superstitious and utterly speculative. The critics of our culture both in India and abroad, comment that our culture is not based on any science or technology, worth the name and whatever we speak of today as indigenous science, is only experiential, and not experimental. I would be showing, to the best of my knowledge and ability that the science we have originated and developed in Bharat is very unique and much different from that of the West. Though spiritual, it is experimental also.

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Mystery Shrouding Vāstu Shilpa Tradition

Therefore, before taking up the subject proper, I would like to submit before the learned assembly, certain conceptions or mis- conceptions that have accrued over the centuries, on the traditional science and technology, and on which something like a fort of mystery has developed. As a builder and rebuilder, I have been trying to dismantle this structure of misconception, causing no injury to any one and on any account. The aim is to see the foundation, examine the materials used for the footings, analyse the structural components, and rebuild it into an agreeable and usable edifice, which would also be visually pleasing and spiritually satisfying. What are those conceptions and misconceptions referred to above? They are too many to be enumerated here. Let me focus your attention on a few of the important ones held or collected and presented by great scholars associated with the research on ancient science and technology of Indian origin.

Science and Technology of the West and the East: our contribution?

We are in the days of advanced Science and Technology. These are days of perpetual talk and

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prolonged admiration on the rapid growth of Science and Technology taking place in the West. Really speaking, there has been a good number of marvellous achievements and rapid advancements in today's Science. Enormous encomium is showered on the West. They richly deserve all our admiration, no doubt. But what is our position today as an independent sovereign nation in this context? In this connection, too many questions are raised and too many contradictory remarks are made. Do we know that India had a glorious scientific and technological tradition in the past? If yes, what is that and why did India, not develop her own science? Why should India depend on or borrow everything from the West? These are questions raised today. When we take a look at the past, we look highly sophisticated and really civilized. How did this come about? Wherefrom? These are another set of questions, heard in the public forums.

Contemporary Search into the Science of the East

Affected by the Western trends in the scientific and technological field, moved by the questions as stated above, and prompted by patriotic fervour, I am

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very happy to point out here, that there has emerged today, a galaxy of contemporary scholars devoted to the study of the origin, nature and development of Science and Technology that existed in the old India. This is their journey of identification of reality. They are now on their feet to delve deep into the spirit of our scientific heritage and to prove its relevance in the modern context in the very near future. But the guides to their search are in short supply today, as one interested scholar and architect remarked. The glorious traditions of Science and Technology, nurtured by our society in the past, have today shrunk into village crafts and cottage industries. Even here, there is production but not improvement in technology. It is indeed a miserable fall of the traditions from the pinnacle of their supremacy.

Another set of contradictory views

Some of them with western bent of mind say, that the origin and development of Science are Euro-centric. There was no science at all in India, they say. On the contrary there are certain other scholars who say, after comparative study, that upto the 12th century AD, our Bharat was enjoying a kind of

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leadership in the field of Science and Technology and only thereafter and that too during the alien rule, it has lost its identity, forcing us to depend solely upon the West for all scientific knowledge and technological expertise. They also speak about the impact or infliction that they have caused on the Indian economic, social and cultural life. They say that our simple, contented and peaceful life is very much disturbed or paralysed by this impact. The life has become too complex and expensive. Life has become too mechanical and it looks very difficult to escape from the complexities and dry routines. With this, I would like to add that the spirituality permeating every phase of our earthly life has been distorted and the values have drifted away. Is it really possible to bring back to life, the spiritual aspect of our culture? Is it really worth restoration? These are another set of questions asked today. Let us keep these in mind and move further into the subject proper.

A Living Tradition - An elderly view

In between, here and there, we find our own old scholars well versed in the linguistics and scriptures trying to identify a kind of Indian origin

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to the scientific and spiritual culture that we had in the past. They, after prolonged and protracted research, project also a view that it is from India that the Science must have gone to the East and the West along land-routes and sea-routes and not did it come from the West to the East. The spiritual culture that had germinated in the Indian soil had spread its branches all over the world once upon a time, though we see only the remnants of the past today. Still it is a living tradition, they say. They hope and strive hard to restore it before long.

Vāstu Shāstra, A Religious Document - Contemporary View

Another section of modern scholars of Indian origin hold these views as archaic and sometimes parochial and chauvinistic without realizing that reflections on one's own past achievements is a pre-requisite for resurgence, revival, renewed effort, and for developing a vision of the future. The generality of our traditional scholars say that our Science and Technology are indigenous and language-centric. Another view is that the Indian Science is religious and served only religion. They

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add to say that the Vāstu shāstras are only religious documents. Still others, on its account, advocate suppression of such documents saying that they impede free growth and advancement. One Prof. A. Rahman, of NISTADS, (National Institute of Science and Technology and developmental Studies) scholar of great repute says that "the scholars of one language have therefore, tended to consider the Indian tradition as one which is associated with one language and religion, to the exclusion of the rest". This statement also calls for indepth examination, by the contemporary scholars. There is truth in it, as far as I know, we the shilpis, are the actual sufferers on account of this factual blemish.

Significance of Indian Science and Technology - Not fully realized

At another place the scholar says, that "Science and Technology in Asian culture area, as a result of colonisation, were cut off from earlier indigenous developments and are hitched to European Science and Technology". Further he says that "Indian Civilization and Culture", like any other, had scientific methods and technical base. This has not

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been fully understood. Besides, some very generalised ideas which are either apologetic or chauvinistic, have held the scene for long. Hardly any studies have been carried out on the nature of Science and Technology and their various linkages to society. Further, the nature of changes in different period of Indian history and different regions of the country have also not been understood, nor their significance fully realized".

Nistads' Researches

At this juncture, I would like to invite your attention to the existence of a very eminent body of scholars and scientists functioning under the aegis of the Government of India, known as NISTADS. This institute has approached the problem of indigenous Science and Technology from the view point of a historian - the history of the origin and development of science and technology in India, as a first step. They are yet to focus their attention on the identity of Indian Science and Technology. Yet on account of NISTADS' efforts, we have today a number of research papers brought out in a beautiful volume for all of us to read and examine.

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The papers are very informative and illuminating. From that volume of research papers it is evident that the NISTADS have a number of programmes that would hopefully throw further light on the indigenous tradition of Science and Technology. With due regards and respects to what they have disclosed in that volume, I would like to record my own humble impression, that none of the papers have been able to touch the centre of consciousness of our culture, both scientific and religious. What I mean here is, that the intrinsic quality of the indigenous Science and Technology is not realised. In other words the question is this. What is the area of anchorage of our ancient science? I would be revealing to you what it is, at the fag end of my article, and while referring to other points, some glimpses would also be available. I am now presenting only the different view points that are relevant and prevalent today in the research labs.

Sacred Architecture and Sacred Geometry

Another band of scholars, emanating from the contemporary architectural profession, with western

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lenience and western method of approach, are going deep into the aspect of structural analysis. They examine the layouts and various components and constituent parts that have gone into the fabrication of ancient buildings such as temples, palaces, mansions, house-buildings, forts, granaries, tanks, wells and other artefacts. The investigation is still going on. But on the same pattern and along the same lines the western scholars also have been doing research but the results are substantial astounding and comprehensive in this aspect. The macro level researches being carried out by the Western scholars, in fact, have gone far ahead of our scholars. The results are brought out into book-forms with titles such as "Sacred architecture", "Sacred geometry". The approach is very methodical and scientific. They are really revealing, enlightening and amazing. They sense a kind of divine ambience in the built-spaces related to the earlier achievements in - art, architecture and town planning, which fact must have motivated them, I believe, to address them as "Sacred". This again merits indepth study and elaboration. Yet I admire them and bow to their

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sincerity and open mindedness. This they say scientific honesty!

Factors that hindered development

From another angle, Prof. A. Rahman of NISTANDS has made conclusive statements as under. This is based on the field survey made at a seminar conducted by NISTADS. Raising a question himself, he has given his own views. The question is why India did not further develop Science and Technology of its own? He identifies a situation for this state of affairs. He says that "The technological and scientific tradition continued to remain separate without any interaction". Further he says that "this may be due to illiteracy of artisans, craftsmen and those who engaged in these activities and the non availability of scientific literature in the languages of the people. The continuation of classical languages (Sanskrit, Arabic and Persian) as the language of science may have added to the problem of transmission of knowledge and availability to its people". Not fully agreeable, though some facts do exist.

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Independent origin and development

Another statement that he has made after an extensive search is this. "The references to some of the features of Science and Technology in India, in relation to the developments in Europe in the THEN contemporary period have, it is hoped, indicated that both in science as well as in technology, there appeared to be significant store of knowledge and expertise. Further, that this knowledge and expertise was in no way less than, which was developed in Europe". What he says is that we had a separate tradition of Science and Technology in the past, with independent origin, existence and development, but further development came to a stand still on account of lack of interaction among other traditions. Accepting certain observations, what is saddening in general is, that inspite of deep researches, the chaff is not yet sifted from the grain, the fiction from the fact.

Finally he is holding a personal view, which he has recorded in the footnotes of his paper. This is what he has recorded. "**In the history of national movement, the role of artisans and craftsmen is often overlooked.... The study of this topic would,**

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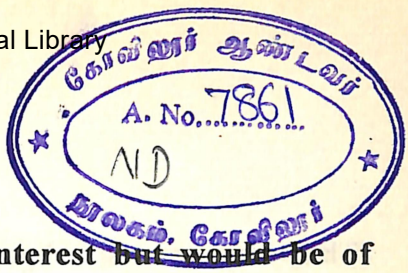

not only be of historical interest but would be of considerable interest to some of the contemporary problems".

Artisans and Craftsmen

At this juncture I would like to make a pause and reflect on Prof. A Rahman's final statement, just now quoted. Prof. Rahman has made use of two words 'artisans' and 'craftsmen' to denote the traditionalists of today, who according to him and in reality, have been over looked in the national movement and development. In this context, I would request you, to pause and bring back to your mind's eye, for a few minutes, the panoramic achievements of India's past based on indigenous talents. Now I would like to ask a few questions bearing on this situation.

Neglect of Research on Vāstu Science and Technology

Were not the achievements of our ancestors astonishingly stupendous, magnificent, and visual testimony to our technological advancement? Look at the great temple buildings of gigantic proportions.

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(That they are not religious edifices, you would find it brought to light during discussions.) Are they not lying still uninterpreted and not fully understood by our own men including the actual doers? Are they not still puzzling and mysterious? Inspite of this don't they directly or indirectly, clue us into the existence of a unique science and technology in the past? Have we made any attempt to trace out the source or holders of knowledge and wisdom with any concerted and conscious efforts? It is very unfortunate that no such thing has occurred in our country except Dr. P.K. Acharya's attempt, made some 70 years ago. After that, no worthy attempt has been made by any of our scholars or practitioners. They attribute, the problem of language, to their complacency. When we are capable of interpreting Vedas couched in the terse language of the remote past, why not they work on simple and understandable Sanskrit in which the country's Vāstu Shipla knowledge is preserved? Have we ever made any honest attempt to interpret atleast the translated works available in the regional languages and examine the existing monumental works, with

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reference to those texts? **The Vāstu texts are a grammar of the language of visual forms. As a practitioner, I would like to say, that they are secular documents of science and technology. You will be surprised to hear me say that even our god-forms are secular in the real sense of the word. They should be called spiritual and hence universal and non sectarian.**

Remaining ignorant of basic things about our culture, we have ourselves overlooked not only our artisans and craftsmen in the national development but also overlooked our heritage on science and technology. Craftsmanship is different from technological expertise. Science, Technology and Craftsmanship are three different levels of operation judiciously interlinked. **I am very sad to remark that no Indian University has taken any interest on this vital body of technological literature. If at all anything happens in the research labs, it is mostly historical or archaeological, not technological or scientific.**

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A Unique Science and Technology

In my opinion, it is this field of science and technology that has suffered utter neglect and segregation, not only during colonial rule but today as well. The secret is that the science of the East is spiritual as opposed to the physical of the West. As earlier observed, the Indian Science has its roots in the centre of consciousness of Individual and Universal beings and the objects experienced at that level come out into the physical world processed and shaped into forms through a unique spiritual technology. **The end products of Vāstu technology are microcosms-organisms that pulsate into life - with a well defined structural form that is replicated and magnified into building forms in actual practice.**

The worthy men of the tradition

Now coming again to Prof. Rahman's comment, let us ask ourselves the same questions and try to find solutions. Could you imagine that artisans and craftsmen of Prof. Rahman's description would be able to conceive, design and bring into existence such stupendous forms of art and utility? If the present day status of our men is too low to be

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worthy of the past, I feel that you may be prompted to identify or ask who really the worthy men were and who were the actual holders of knowledge wisdom and expertise? Our researchers seem to have never reflected on this vital problem of identification of the resource persons. It is not exaggeration to say that the builders of our ancient culture and civilization were not mere artisans and craftsmen, but they were scientists and technologists of exceptional wisdom and talents. They were of course, the ancestors of the present day artisans and craftsmen. **My humble caution to researchers is that today's position should not be taken as the basis for the interpretation or evaluation of our scientific knowledge and technological expertise. This is the place where most of us fail, leading the society from darkness to another darkness.**

In this context I would like to pose some more questions for you to ponder over and to some extent assess the exalted status of indigenous sciences. Let me restrict myself to the questions related to temple buildings, dwelling houses, public buildings and principles underlying town and village planning - the

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problems of Vāstu Shāstras. There are other areas such as ship building, flying machine, astronomy, medicine, mathematics which I would reserve for our consideration at some other occasion.

Rebuilding of Indian Science and Technology

You could have seen stone built structures, brick built buildings, imagic forms of worship raised by these eminent architects and builders of the past all over the Indian sub continent. Are we not still living in the old built-spaces, old towns and villages conceived and made into realities, by the vāstu shilpa tradition? Don't we say that they conferred on us prosperity and peace over the centuries? **If science is for human welfare, and promotion of spiritual well being, it is Indian science and it is that which is relevent today. Science was never used in India for making profits or for creating inequality among nations.** What happened to those shāstras and to the practitioners? These things are addressed not only to our own researchers but pointedly to the practitioners. The role of the practitioners is very important at this period of history. Let us have a relook at our own heritage and go into action. There

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are a number of Upanishads pertaining to Vāstu Shilpa lore. We concentrate only on a few, ignoring the rest for reasons unknown. My urge is that they should emerge out of the recesses of dark rooms of scholars and practitioners and help our scientists and practitioners to rebuild the dilapidated house of science and technology of India. It would be a national service of inestimable value. The self respect of our nation should be preserved and promoted at any cost.

Recently, motivated by this feeling of patriotism, a section of Viswakarmas of India have organised a research institution entitled Akhila Bharata Viswakarma Sahitya Academy, with the primary aim of collecting all available technical material from different sources - human and institutional. It is now functioning well. It is concentrating on Keralite and Nagarcoil sources. Simultaneously, shilpis of Andhra and Karnataka are also on their feet to make collections of rare and old works. I invite scholars of the Indian union to join us in this noble task.

At this juncture, I know that you are about to ask me what my Vāstu Vedic Research Foundation

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is doing in this direction? A little later, I would be unfolding to you what I am blessed with and what I have been doing all these years and what I propose to do in the near future and also ultimately.

Under the patronage of my affectionate Government of Tamilnadu and Government of India, I am doing something substantial under the roof of the Vāstu Vedic Research Foundation abbreviated as VRF ('V' stands for Vibration 'R' for Rhythm and 'F' for Form) which really exposes the quintessence of Vāstu Science.

Shilpa Shāstra not at all Sectarian or Religious

The contemporary generation looks upon Vāstu Shāstra as a religious document of sectarian nature as they have been associated with temple designing and building as also making of idols for worship, for a pretty long time. What the shilpis were doing to meet the secular needs of the community in terms of residential buildings, palaces, mansions, tanks, etc. are not known to them or they are not looked at from true angle. These activities had come to a stand still before they were born. During the alien rule, it

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has suffered neglect and set back. This is the tradition that has suffered total eclipse. During their rule, there appeared many a school for art-education in the country. They were all on western model. No institution was established for the indigenous art traditions for simultaneous growth. Its association with religion appears to be the reason for this negligence. They introduced their religious faiths and established their religious institutions all over India. This moves us to remark that the intrinsic secular nature and spiritual base could not be comprehended by the rulers, to extend equal patronage to Indian Art. They did study artefacts, carried out archaeological surveys, wrote books on culture and philosophy, studied scriptures, preserved the monuments and produced monumental volumes on art and architecture but never encouraged local talents and wisdom to march with the times. The spirit behind the scriptures and structures did not reveal themselves to them. Hence it looks much outdated also. That this is timeless and eternal you would be knowing about it later. That religion, in the Hindu concept, is spiritual and hence universal

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would also be discussed later. The West is also realizing the values, of late, on account of recent unbiased researches into the ancient science and technology of the East and the West. The occidental experience, I believe, would help the tradition to remerge with a scientific garb. The occidental waves of spiritual science and technology have already started sweeping across the continent of Europe, with its nuclear point in Holland, under the able stewardship of Maharishi Magesh Yogi, affectionately and respectfully addressed as Maharishi T.M. (transcendental meditation).

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3

Contemporary Indian Scenario

A section of our contemporary Indian society with secular frame of mind, looks at the tradition with contempt. Another section, twisting facts and tieing it with religions selfishly and wantonly suppresses Vāstu of its scientific core and unique spiritual approach to human wellbeing. They do not encourage, on this account, the native talents. They are too materialistic and too western in their life style though they speak of Indianism in public platforms. They are hypocrats with too many masks on their face. So the opportunity for traditional architects to do secular works direct from the society has almost disappeared. The institutional education imparted in the western pattern in our colleges has deprived of their (Shilpis) opportunity for work and growth. If at all there is something visibly favourable, it lies in the shilpis' services being utilised by a section of the Indian architects for certain decorative works on the exterior and interior of modern framed structures.

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This skill is not taught in contemporary institutions anywhere in India. For this, they look for traditional skills and stealthily make use of them for their advantage. This is just to give an Indian look to the western models. The western architects call it Indianisation. This is merely in response to a compulsion and demand for introduction of indigenous concepts with modern amenities from a section of the contemporary society. The exquisite beauty of the finished buildings according to Indian standards has greater attraction for them. Classical aesthetics, principles of rhythm, balance, and symmetry have also attracted the attention of a certain other section of contemporary architects. But they are yet to pay attention to the scientific aspect of building technology. The social outlook in general is getting changed. During 1995, a series of seminars, as many as 25, have occurred in India, mostly in favour of this science. Even engineers and architects have started advocating Vāstu principles though they are yet to focus attention on the scientific aspect. This may be taken as a good sign for a change towards indigenous talents, science and aesthetics.

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My humble opinion is that if this dilemma is solved satisfactorily there would be patronage from all sections of our own society. Therefore the first work for traditionals of today is that they should wipe off the mistaken notion that Vāstu is religious, sectarian, superstitious and irrelevant and re-establish that it is basically scientific, secular, spiritual and hence universal, fit to be adopted throughout the world. That it is a world heritage, should be emphasised and wide publicity made. The modern media of mass communication, particularly the television can do considerable service in this direction.

Mahārāstrā and Kerala leading in Research

In Mahārāshtrā, some genuine efforts are visible on the horizon. Eminent scholars, engineers and architects have started on a march towards the truth. Technical experts and linguists come together and work together to understand the spiritual values of the Vāstu Shilpa tradition and the science and technology involved therein. What is again the difficulty faced by them, is the problem of classifical languages such as Sanskrit, Arabic and Persian, as Dr. Rahman has remarked. However to

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go deeper into the scientific and technological aspect they need substantial help from the tradition. The lack of proper interpretation of the principles from the practitioners' angle, seem to be the reason for the retarded progress. Yet they are on the march.

In Kerala, the housing architecture is taken up as a subject for teaching at college level. Quite a lot of documentation is going on. Research and application are going side by side. It is expected that Kerala would lead in the matter. It enjoys governmental and social support. Let us examine the status of present day practitioners in the Vāstu Shilpa tradition and their ability to contribute for promotion.

Practitioners on the other hand are able to internalize work-problems and respond to problematic situations easily and effectively. Their skill is still there. But they are not able to communicate nor have they recorded such experiences for posterior references. It is a kind of oral communication and direct application during work situations that matter much in this branch of traditional teaching and traditional learning. A kind of affection, trust and

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cordial relationship between the teacher and the taught are very much required for proper propagation, assimilation and application. This is ofcourse, common to all spirit-based artistic traditions. But in the case of Vāstu Shilpa involving visual communications, the psychical interaction and exchanges and above all total involvement which we call 'devotion and dedication' are very much needed. The practitioners of today possess mostly work-experiences but not that much knowledge of the Shāstras. They themselves have developed a kind of displeasure towards the classical languages and religious overtones of their profession. In short, they have become oblivious of the scientific content and character of their own tradition.

The Governments, state and central, are also favourably posed towards promoting art-education in many a way. But the quantum of revival efforts taken by the government bodies for the Ayurvedic and Siddha systems of medicine, are not available for this tradition in any way. The cine field and that of music and dance are enjoying enormous benefits from the state and central governments.

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Service Corporation

The images of gods and goddesses have become commercial products of export through government agencies or corporations. There is large production and a large amount of profit, though not improvement in technology or improvement in the quality of products. What is distressing is that they are treated as toys for interior decorations in public and private spaces in India and abroad. If this is stopped, the livelihood of traditional craftsmen would be seriously affected. Now they are very happy, with their traditional poverty, drifted away. Under the circumstances, the demand for change and encouragement for secular themes for material representation, should come from the society. The shilpis open the eyes of the deities for worship and social well-being but their eyes lie closed to the values of the forms they produce. If this is realized, certainly there will be a flow of quality products of secular and utilitarian value. Such serious attention is lacking, at all levels. The seemingly religious flavour enveloping the tradition is found to be the major factor affecting its development.

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Encouragement of Tamilnadu Government

In Tamilnadu, at the Government college of Architecture and Sculpture, Mamallapuram, the temple architecture has been successfully brought back to life. It is safe and developing. Such an attempt has not been made by any state government in the Indian subcontinent. The institute started as a work yard in 1957 with a certificate course, has risen to the status of a degree awarding institution. The government is willing to raise it up to any level provided there is traditional competence to teach and carry on. There is bright future for this institution. The alumini are doing well at work level, with stray instances of enjoying leadership for independent designing and executing. But there is no agency for the alumni to depend upon and group themselves into guilds as the tradition had in the past. Traditional housing architecture has not yet found entry into this curriculum. The western mode of building architecture has made great strides in our country on account of institutional training and the trained personnel getting themselves united under a strong body of Indian Institute of Architects ! They are

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doing stupendous works suited to the changed life style, though luxurious in character. To lead a simple, happy and contented life, for the poor and the middle class, house patterns are yet to develop. Only the tradition could offer solutions. But the passage is blocked.

On the design and work side, the government were pleased to offer two unique opportunities to exhibit indigenous talents in design and execution of two major building works for the Tamil University, Tanjore. The traditional space concept, principle of rhythm and beauty could be introduced very successfully there. Those two buildings are of huge sizes, the administrative block measuring 400 feet long and 130 feet high, and the library building measuring 400 feet dia and 100 feet high. Those two buildings were designed and executed by me for the Tamil University in Tanjore during 1985-88. The then Chief Minister of Tamilnadu Government and the then Vice Chancellor encouraged me to do these master pieces. The tradition is very much indebted to them. They attracted the admiration of all concerned. They bear testimony not only to the

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traditional skill in design and execution aspects but its capacity to meet contemporary demands and challenges. The monumental Valluvar Kottam built in Madras, in 1976 and built of granite stones is another marvel, worthy of mention. The technological skill in creating a replica of timber architecture apart from its literary, aesthetic values and social relevance has accorded it a unique status in the domain of contemporary architecture. The then Chief Minister of Tamilnadu, himself being a creative artist, extended whole hearted support to Vāstu technology and Vāstu aesthetics. I did this under his direct stewardship. I am profoundly grateful to these two eminent personalities who lovingly helped me to prove to the world outside that the traditional skill and wisdom are still alive and not dead altogether. They did not speak but did substantially for the tradition to rise up and continue with renewed vigour and vitality. The secular and utilitarian principles are predominant in those two exemplary creations. Under the circumstances the cotemporary architects with rich practical background coupled with knowledge and wisdom of this ancient tradition and supported

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by traditional shilpis with progressive outlook and competence, should make a joint effort towards reviving the tradition of Science and Technology concerning Housing Architecture. There should be no religious, communal, racial or regional bias nor linguistic considerations in the way of implementing the programme of revival and development. Institutes with exclusive focus and involvement in research and development on the Science and Technology of Vāstu tradition should also be encouraged simultaneously with funds, treating them as feeder centres of knowledge and skill, for enriching institutional instructions.

Shilpa Shāstra, A Spiritual, Aesthetical and Scientific Document

Now coming, to the art and science as understood and practised in India, let us reflect on its creations and explore where they stand, where from they take roots, whether they have the anchorage in the religion or it has got its own independent origin and development or the Vāstu tradition itself has generated any belief system of its

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own in the past. These remarks merit deep and unbiased search.

Art, whether of Indian origin or of any country, has never been and can never be religious or sectarian. In Indian context existing as 'Essence' in the centre of consciousness of the inner being, it vibrates and takes form. It is a spiritual product. Take for instance, poetry or music or dance of the same classical tradition. Any creative urge emenating from the inner being, as a result of experience of 'Rasa', turns out into artistic expressions in a variety of streams and forms. There is a unique grammar, involving the dynamics of the spirit. There is a mathematical system based on this spiritual dynamics. They account for the exceptional status of these traditional technologies. What would you say now whether music, dance and poetry are all spiritual or religious? No doubt, in actual practice they illustrate sometimes more of the themes of various religious cults than those subjects of national, regional and common interest. Yet we do not call them religious or sectarian. The technological texts of these traditions known as 'Lakshana-Shāstras' are their

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grammar. Would you call these grammatical texts, as religious documents? We have grammar for all languages. When a language is used for religious cause, would you call it religious and sectarian? Can we say that Tamil or Sanskrit as religious and sectarian merely because they have religious hymns and songs in abundance? Is English Christian? No, they are all intrinsically non-religious and non-sectarian but utilized for certain cultural purpose. What is very important to note here is that they are not only secular at core but there is as well as unique science of universal character underlying the grammar and related creations. So is the status of Indian art and architecture of the Vāstu Shilpa tradition. They are basically scientific and secular in as much as they constitute a grammar of visual forms. It is a language of visual expression. Just like music, dance and poetry, the experiences and expressions of Vāstu Shastras are really spirit-based. Are you able to follow and identify as such? Convinced? The Vāstu tradition has been playing a duel role in our culture and social life-one as a fine art and another as utilitarian and industrial art. As

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regards its contact with various religions, there is one vital point to note about the behaviour of the Vāstu tradition.

Impact of Religion on Vāstu Tradition

There is no doubt that religion has its own merits and standing in the social culture of our country. But the association of this Vāstu-Shilpa tradition with the various religious cults has generated certain misgivings and misunderstandings which ultimately led to the loss of all round social support. Today the society is a mixed one as distinct from the oneness that existed in the past. Unless and until the universal and spiritual aspect of the Vāstu Shilpa tradition are appreciated, I believe, there will be no redemption from the present status. Hence we have to make an unbiased, open minded, and honest study of the religious history with reference to today's context. There are two main reasons for the Vāstu to be looked at as sectarian and narrow. The worshippable objects so obtained through this tradition are subject to ritualistic adoration, which adoration overshadows the spiritual message of such creations. The meaning of the forms so adored are

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not easily understood by the lay public with the result a kind of superstition has developed over that culture. On account of this, the religious cult has come to rest on a kind of faith or elderly advice and insistence. Such of those as are belonging to one sect looked down upon the other with contempt and disregard, forgetting the commonness of the spiritual message that they expressed. This gave rise to religious feuds during the historic period. Instances are too many in the annals of our country. They are still there in one form or the other. This has affected the spiritual values embodied in the Vāstu and Shilpa and also our spiritual culture in general. Secondly these forms of the Vāstu and Shilpa, be it a temple or a sculpture, look much different from that of the products of other world art traditions. Why should they look different? Is there anything special about them? Are the figurines brought out by this tradition really god-forms worth so much of adoration and worship at heavy costs? These have been remaining unanswered questions over the years. These are neither scientifically interpreted nor convincingly settled. The day has come, to get this mystery unravelled.

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Of course there are art traditions that make exact copies or photographic versions of gross nature in their variety of moods and reposes. This they call realism. But realism in Indian tradition has a deeper significance. They are concerned with reality of nature rather than rendering exact replicas of gross nature. In simple words, the reality means only the intrinsic quality (guna) of nature - the quality of the spirit - the elemental, orderly behaviour of various objects of nature. Take for instance, the plants, creepers and trees, How are they depicted? Have you seen anywhere in the Indian portrayal of the gross visual forms exactly as they exist in nature? Never you could have seen nor attempted by the artists of classical traditions right from Kashmir to Cape Comerin. Instead, you would be seeing their qualities, that is elemental inner dynamism that prompt into existence their external forms and behaviours. As a matter of fact, you would see the abstractions of the inner qualities and outer behaviour of the plant-kind, such as *curling* (of the tender creepers) *folding* (of the leaves) *unfolding* (of the buds into flowers), *frilling* (of the leaves) and *streaching* (of the stem and branches) rendered in a multitude of shapes, and

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forms, maintaining at the same time the basic physical features by which they could be distinctly recognised. In the above example, what you have to note is that the elemental qualities of the energy contained in the plant-kind are expressed in abstract linear tones such as - streaching, flexing, folding, unfolding and frilling and the outer physical form developed aesthetically as the artist experienced. All such qualities are abstracted and brought into a frame work of 'five fold efforts' of the live-form of the plant-kind. They are said to be the basic elemental functions of the spirit contained in the particular live form. This is the basic science on which the Vāstu Shilpa tradition is developed. This is illustrated as an example to aid easy understanding of the basic science of the spirit or energy contained and functioning in all forms of nature. They are called panchakrutyas or Iynthiram (ஐந்திறம்) or Iynthozhil (ஐந்தொழில்) meaning five basic behavioural attitudes (Pentadic feeling tones) of nature. In this connection there are still subtler things to discuss. But this is suffice for the present and the same will be brought under discussion in a more appropriate context.

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The Anchorage of the Vāstu-shilpa in the Science of the Spirit

In between, I would like to intervene and ask a pertinent question. Have you come across any art-tradition in the world whose products are adored, prostrated before and worshipped day and night as sacred and divine? What is amazing further is that even buildings of this tradition are worshipped and treated as supremely sacred and divine. They are said to be forms of the divinity. Even dwelling houses are looked upon as living organisms in this tradition. Do you know that most of our religious iconic forms are secular and scientific in their conception and construction? While 'Spirit' or 'Energy' is the common base and the spring board for all religious and secular edifices and forms, what value would you assign to the Indian art - creations particularly of architecture and sculpture? The spirit is unknown, unseen and unlimited in space but it is limited and brought into a variety of visual forms in this tradition for all of us to commune with and enjoy the pleasure perpetually. THEY ARE BASICALLY SCIENTIFIC, CONCEPTUALLY SPIRITUAL,

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EXPERIENTIALLY ELEVATING, TECHNOLOGICALLY UTILITARIAN, AND AESTHETICALLY PLEASING. (This is spiritual realization. This is spiritual pleasure). In this Vāstu Shilpa tradition you would find science and spirituality intermixed or fused into one. Is it not our prime duty then, to preserve this scientific architecture and scientific forms? yes; the dance form of Shiva is scientific at core. Could I say that we worship really science and its functions? Is it not our immediate concern therefore to revive, promote and continue the tradition before it is completely lost? Being spiritual, it is a living tradition even today but in a small way. We have therefore a heavy responsibility to see that the lamp of our science based-culture burns with more effulgence than it did in the past. What is urgently required today is that we have to strike a balance between the benefits of materialism of the West and the benefits of spiritualism of the East and agreeably blend them as also apply them for the common weal of the humanity at large.

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4

The Profession and The Professionals

Till now I have been quoting and discussing various view points expressed by researchers on the tradition of Science and Technology as also its present status, as against the accelerated growth and advancement of its western counter part. I have also made certain important points of interest as passing references, at different contexts.

Now, let me say a few words on the profession and the professionals, belonging to this tradition. I would like to cover the following aspects as briefly as possible. They are the basics that everyone would like to know, and only thereafter you would come to understand and appreciate that this tradition is a class by itself, borrowing nothing from any source - East or West, North or South.

The aspects are

1. ***Qualifications required for an individual to be a successful architect, designer, builder and sculptor, in the Indian tradition.***

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2. ***The Institution of shilpis, that were in vogue for centuries for effective coordination, cooperation and execution and for a concerted service to society.***
3. ***The corpus of literature on Vāstu and Shilpa.***
4. ***The progenitor of Vāstu-Shilpa Tradition.***
5. ***The origin and development of Science and Technology of India, its greater inclination towards the spiritual aspect of science without discarding at the same time the physical aspects.***
6. ***The synthesis of Science and spirituality in the Vāstu Vedic Tradition.***
7. ***The future of traditional science and technology of India.***

Let me take one by one and discuss briefly a few points that would be of interest to you with a little bit of elaboration here and there, at appropriate contexts.

The Sthapati and his Pentadic Team

The designer, builder and sculptor of Vāstu Shilpa tradition is denoted by a very significant term 'Sthapati'. This word occurs in the Vedas, attesting to its great antiquity. There are other words such as Vāstu-shilpis, Karmakāra, Swarnakāra, Rathakāra, Twashta and Viswakarma. The meaning of the word 'Sthapati' is this: He who is qualified to

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hold the position of a chief executive for works of art, architecture and town planning is called Sthapati.

Sthāpanādhipatih yasmāt tasmāt sthapatiruchyate.

स्थापनाधिपंतिः यस्मात्तस्मात् स्थपतिरुच्यते

In simple words, he is the chief designer and builder of all types of structures, sculptor and a town planner. He is an Acārya, the preceptor of his clan. He is also qualified in the design and execution of cars and chariots of various types, required for civilian use as well as war-time use. Added to this, he should be a designer of suitable furniture and couches for household use and other specific uses. These four fold areas of Sthapati's activities are denoted technically by—

1. Grāma - Nagara Vāstu (Human settlements; village and town planning)
2. Prāsāda Vāstu (Building architecture comprising residential and temple buildings)
3. Yāna Vāstu (Vehicular Architecture)
4. Sayana Vāstu (All types of furniture)

To assist him in his projects, he had a corporate body of specialists in various media of expression. They were called Manu, the metallurgist and smith, Maya the timber architect and wood craftsman,

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Twashtā, the producer of vessels and metal wares, Shilpi, the designer and builder in brick and stone, Viswajna the producer of gold wares and ornaments. All these names occur in Vedas also. This is a kind of pentadic group of master craftsmen always available for the projects, both at micro and macro levels. Even today you find these people behind every building project, though their names are rarely brought to lime-light by the agencies concerned. To do the so called interior decoration of traditional kind, they alone are available in the actual work field.

Shilpis and Vedas

What is very interesting in this context is that these professionals were each associated with one Veda or the other - as Rig Veda to Manu, Yajur Veda to Maya, Sāmaveda to Twashta, and Atharva Veda to Shilpi and a fifth Veda to Viswajna. What is this fifth Veda? This was known as **Pranava Veda**. We have references to the existence of Pranava Veda in our historic texts, written by shilpis of bygone days. We have this referred to in Nāgara Khānda of Skāndapurana. What is very interesting, in this context is that there is a Khanda

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called Kaumārika Khānda which is related to the Lemurian continent about which there is a lot of discussions today in the scholarly circles.

Such a concept of a professional body was in existence, from the very remote past, equating their pentadic functions to the Panchakrutya of the Creator. The pentadic body of artists and craftsmen has another great significance of its own. The whole area of industrial and mechanical arts, as also fine arts are covered by this group of experts. The entire social needs and comforts, physical as well as spiritual, were met by this group. Though they were part of the society at large, they lived within the social frame work of a village or a town or sometimes outside. In view of their owning and running large sized factories, to avoid environmental pollution, they used to live in isolation also. Such of those professionals as were involved in the production of war weapons, they lived in forts, in utter seclusion from the society. As a matter of fact, according to traditional knowledge there were three major factories for the entire nation - one in Avanti, in the North, another in Nāgapatnam in the South

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and the third in Sri Lanka. Even today there is a city in Sri Lanka, known as Mavittapuram in the past and Mādōttam, in the mideval period. The good old name was Mahā Twashtāpuram. The prehistoric name was Māndai Nagar (மாந்தை நகர்), Here, in this Mahatwashtāpuram, the third factory was in existence. (மாந்தைப் பள்ளு). Avanti is referred to in Silappathikāram, the historic epic of the Tamils.

"அவந்திக் கொல்லரும் மராட்டக்கம்மரும் நந்தமிழ் நாட்டுக் கைவினைஞரும்"

— சிலப்பதிகாரம்

This means that the "smiths of Avanti, the shilpis of Maharashtra and the craftsmen of Tamilnadu worked together".

Shilpi guilds of the past and the present

While this is the division of the major institution of technologists at macro level, there were guilds of shilpis at lower levels, each guild consisting of four category of experts, namely Sthapati, Sūtra grāhi, Vardhaki and Takshaka. The Sthapati is the Chief designer, guide, and Director General of all structural civil works carried out at different work-levels. The Sūtra grāhi is a marker and a master

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of dimensions or measurements for the craftsmen to adhere and work accordingly. The Vardhaki is the joiner of all finished pieces into a structure and Takshaka is the actual carver or sculptor in the workyard. Though the Sthapati is invariably a single person, the number of Sutragrahis and Vardhakis is limited, and unlimited are the Takshakas or workmen depending upon the magnitude of the project undertaken.

Emotional integration at work level

Basically all were shilpis or workmen, including the Sthapati. And so there were considerable coordination and cooperation among themselves, at the levels from conception to construction. There was a lot of interaction, mutual understanding and above all love and respect among all involved in the task. There was recognition of talents at each level. One hiding the other never took place in the traditional work programmes. This kept all in good spirits from start to finish. Do you know the man to be honoured at the inaugural and closing function in this concerted effort? The blacksmith called Manu, who

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prepared the tools, was always to take the honour of being first. Even today, we hold this practice invariably and firmly. There is perfect harmony of emotions at all levels. The result was always a magnificent work of art and utility, be it a spiritual edifice or a building for secular use. But today, when they work in other traditions and situations, they do not enjoy the same recognition, respect and affection and ultimately they revolt against and go into disintegration with inestimable grief at heart.

Qualifications of Shilpis of the guild - Their status, present and past

Let us now look into the qualifications held by each of the experts in the order of their professional hierarchy - the Sthapati, Sūtragrāhi, Vardhaki and Takshaka. This order was in force till the first half of the 20th century and the same has degenerated into the present day 'unorganised sector'. The colonial rule and the introduction of 'yajaman sevaka' - attitude in our modern institutions, destroyed the solidarity of the guilds. Presently they are working under contemporary engineers and architects on daily

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wage-rate or on piece rate labour-contract. This is another sign of disintegration and decay that have occured after independence. As a matter of fact, around 1950s, there were one thousand and five hundred craftsmen enlisted from Tamilnadu and put under engineers and architects on the construction of the Vidhāna Soudha of Bangalore. This should be frankly admitted that their involvement accounts for the elegant design and beauty of the stone-built structure and every other minor works. A certain number of sthapatis were also working there as group leaders or in the cadre of sūtragrahis or markers. After that, there emerged a sense of regrouping among themselves, into small units, but this again got dislodged for want of work situations and - continued official patronage. They were elbowed out of their legitimate trade. Even the institutionalized training did not provide better or suitable work situations in the country. **What is painful is that the colonial feeling still persists among our own men even after country's freedom, though they speak in public forums, high of indigenous art and architecture and their revival and continuance.**

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These traditionalists are microspic in number and hence suffer neglect. They lack leadership. Their voice is not heard. Their talents are not recognised. There is lot of suppression and oppression. The country's laws are not favourable to their re-emergence, inspite of inimitable skill and technological expertise that they still possess. The Japan example or model has not moved our policy makers. There is no mention and follow up action, anywhere, for these people to rise again and involve themselves in the nation-building activities. We feel satisfied by involving them in cottage or village industries and showing a high profit to the government for its continuance!

On my humble part I have been maintaining a small guild consisting of various category of workmen under the title of 'V. Ganapati Sthapati & Associates'. This is working very well undertaking projects - religious and secular - all over the world, though no official support or law are available for its future existence and continuance in my own country. Days are rolling on, only on individual and personal merits and achievements!

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What I am doing now very calmly and would like to expose openly is, that I am seeking occidental recognition for the Eastern talents, knowledge and wisdom. I want to come back from the West to the East, because I find sincere admiration and regards for our traditions in the West. This is actually the history of India from the very remote past, especially in the field of Science and Technology. The spirit of colonialism is no more with them. The neo-colonialism that I see today among our people should drift away, for us to take a share in the national development. Let us not attribute motives to the West's sincerity and hang on to the oft-repeated word-'colonialism'. There is no meaning or relevance at all, today. It is sheer hypocracy. Of course they did not encourage but did not destroy the tradition. It is on account of their efforts, we have been able to preserve our Vāstu culture through the establishment of the Department of Archaeological Survey of India.

What I am forced to suggest now is that there should be a national forum like 'National Academy of traditional sciences and technologies' for all

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shilpis of India to come together so that they may evolve action programmes and come back into the main stream of national life and development. They remain now cut off. This needs immediate attention of the welfare government at state and central levels. It is gathered that the west is opposed to the formation of such a national institution and what is more astonishing and painful is to find that our own men modernised inwardly pretend to be traditional but outwardly stand opposed to the formation of such an institution. If this is the reality, I fear, India would remain enslaved for all times. There is no scope at all for the traditional sciences snd technologies to come back alive. If this is allowed to continue unchecked, the Indian civilization and her culture would toe the fate of ancient civilizations such as Sumerian, Egyptian, Assyrian, African and Maayan.

Sthapati, The Chief

Let us now go deep into the qualifications of the Sthapati first, as found in the Mayamata Vastu Shāstra, one of the most authoritative texts on art, architecture and town planning. Please do not forget

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that Maya was the originator of the Indian tradition of art, architecture and town planning. You would find the same from other sources also.

Qualifications of Sthapati

Atha vakshyami samkshepāt silpinam lakshanam prithak
sthapatih sthāpanarhah syāt sarvasāstra visāradah
nahīnāngo atiriktāngo dharmikastu dayāparah
amātsaryo anasūyacha tāntrikasvabhijātavan
ganitajnah purānajna ānandātmapyalubdhakah
chitrajnah sarvadesajnah satyavādi jitendriyah
arōgīchapromādi cha saptavyasanavarjitah
sunāmā dridhabandhuscha vāstuvidyabdhipāragah
sthapatestasya sishyo va sūtragrāhi sutothava
sthapatyājnanusāri cha sarvakarma visāradah
sūtradanda pramānajno mānonmānapramāna vit
takshitānām takshakenapyuparyupari yuktitah
vriddhikrid vardhakih proktah sūtragrāhyānugah sadā
tatkshanāt sthulasūkshmānām takshakah sa tu kīrtitah
mritkarmajno gunī saktah sarvakarmasvatantrakah
gurubhaktah sadā hristhah sthapatyādyanugah sadā
ebhirvināpi sarveshām karma kartum na sakyate
tasmāt etat sadā pujyam sthapatyādi chatushthayam

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ebhih sthapatyadibhiratra loke
vina grahītum sukritam na sakyam
taireva sārdham gurunātha tasmād
bhajanti mōdam bhajamānamartyah

— From Mānasara Vāstu shastra.

(In other texts we find as follows - Mānakarmajnah; Purānajnah, Vichārajnah, Āchārya lakshanaih sampannah)

Sthapatih sarvasāstrajnah sūtragrāhīti sūtradhrik
vardhakir mānakarmajnah tatkshanāt takshakah smritah
sthapatih sthapānārhah vedavid silpasāstrapāragah
sthāpanādhipatiryasmat tasmat sthapatiruchyate
sthapateschājnayā sarvam sūtragrāhyādayah sadā
kurvantisāstra dristhena vāstu vastu prayatnatah
sthapatyādichaturvarnah silpibhih parikīrtita
ācharya lakshanairyuktah sthapatirnāma dhīyate
srutajnah sūtragrāhi cha rekhājnah sāstra vittamah
vichārajnah srutajnascha chitrakarmajno vardhaki
takshakah karmavitsabhyo balabandhu dayāparah
srutisāstram prakarbavyam sarva lakshana muchyate
ihaiva lokasya kritam vina silpināvinā gurum
nalabhyate tu yattasmatdebhih sahaive kārayet
vina krite tu saphalam bhuktim muktim na vindate

— From Vāstu Vidya

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Visvakarma kulah sreshthah
Vedasāstrōkta mārgakah
Arogī rūpasampannah
Satyavāk dharmavatsalah
Mantra tantra kriyābhijnah
Kutumbī satkulōdbhavah
Veda sāstrārtha tatvajnah
Nityakarmāratah suchih
Pratishthā karmakusalah
Sāntah sajjanasattamah
Brahmajnāna japāsaktah
Sūtragrāhī subhānvitah
Ēvam vidhagunōpētah
Silpakalpyah Prayatnatah
Kartavyam Vāstu sāstrōktam
Stapatih sarvasāstrajnaih

— **Visvakarma Vāstu Sāstra**

(All in the team are called generally shilpis and each has to possess knowledge of the Vedas. This is worthy of note here).

If you could make a pause and reflect on the various aspects of the qualifications prescribed for Sūtragrāhi, Vardhaki and Takshaka you would be tempted to ask this question. Even great men have

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asked me the same question. It is very appropriate that a Sthapati, the chief should be versed in the Vedas. But why should the men at lower work-levels should possess knowledge of Vedas? This is again the most important aspect of traditional learning, planning and doing. Please permit me to ask a question, just to arouse your feeling of search into the truth. I do not have any other instrument or alternative than to raise small questions like this. I am not exaggerating anything or under- estimating or disparaging any one here or elsewhere. That is not at all my concern. So the question is this. Are we really able to appreciate everything that has been done by the shilpis of this tradition either on a temple, or in a sculptural form, or in the design of the dwelling houses or a town layout inspite of our centuries long association with these objects? Could you accept that what the shilpis have done in the name of gods are really god-forms? Or, are they only symbols as the scholars of the East and the West assume till date?

What I am trying to impress upon you is that the works of the old shilpis are still both an attraction and a mystery for great minds. They look

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at them with amazement and wonder. The aesthetics are still inimitable and even simplification is still remaining a question. The handling of proportional measures will be difficult, as I notice in the new entrants, without proper initiation and intense practice. If this is really so, please imagine what amount of knowledge and skill the shilpis of Vāstu tradition, should have possessed to touch the deeper recesses of our consciousness. Can I answer by saying that, what all we see and admire today are the creations of Vedic scientists and Vedic technologists, coupled with abundant amount of aesthetical experiences? They were not the artisans and craftsmen of somebody's estimation or being encountered today on the road side. They were spiritualists of supreme order capable of expressing their spiritual experiences in visual terms. They had shastras of their own to study and follow. They did not have any Guru outside their Pentadic group. They are independent even today.

Let us now have a look at the shilpaic literature that were held by the shilpis of the past as also those available at present. I would like to register here the

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list for your information. Such of those as are available are noted in italics.

Thirty Two Texts according to Mānasāra

Viswakarmeeyam, Viswam, Viswasāram, Prabhōdham, Vruttam

Mayamatam, Twashtā Tantram, *Manusāram,* Nalam, Mānavidhi

Mānakalpam, *Mānasāram,* Behusrutam, Srushtam, Māna Bhodam

Viswabhōdam, Ādisāram, Visālaksham, *Viswakāsyapam,* Vāstubhodham

Mahātantram, Vāstu Vidhyapati, Pārāsarīyakam, Kālayūpam

Chaityam, Chitram, Āvaryam, Sādhaka Sāra Samhitā

Bhānumatam, *Iyndramatam,* Lokaghnam, Souram.

— From Mānasāra

Twenty Eight Texts according to Manusāra

Esānam, *Chitra Kāyapam, Prayōga Manjari, Peruhitam*

Bhuddha Matam, Goutamam, Kulālam, Vāsishtam

Manōkalpam, Bhārgavam, Mārkandam, Gōpalam

Nāradeeyam, Nārāyaneeyam, *Kāsyapam, Chitrayāmalam*

Chitrabāhulyam, Dēsikam.

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Miscellaneous but Important

Vāstu Vidya, Manushyālaya Chandrikā

Sāraswateeya Chitra Karma Shāstram

Brāhmeeya Chitrakarma Shāstram

Sakalādhikāram, Shilpa Ratnam

Sanat Kumāra Vāstu Shāstram

Sirpa Ratnākaram, Sarvārtha Sirpa Chintāmani

Texts used by North Indian Shilpis

Vāstu Rājavallabham, Samarāngana Sūtradhāram, Rūpamandanam

Kothandamandanam, Shilpa Prakāsa, Aparājita Pruchchā, Pratimā Māna Lakshanam, Ksheerārnavam, Deepārnavam.

Note : North Indian shilpis also followed and follow the same principles of Vāstu with the same pentadic guild of shilpis in the name of Manu, Maya, Twashta, Shilpi and Viswajna. They all belong to one and the same Vāstu shilpa tradition though they live in different states of the Indian Union. Today they are a national race, remaining united under one National body called 'Akhila Bhārata Viswakarma Mahājana Sangham' with head quarters in Delhi and

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with their working presidents in each of the States of Indian Union. This is the tradition that had unified the whole Indian race and kept it emotionally bonded. The revival of this tradition will certainly bring the whole people of Bharat under one and the same banner again and keep all of them emotionally integrated. This is the only tradition that did not agitate or revolt against any of the social groups, though they suffered degradation, marginalization, segregation, isolation and utter eclipse. They are the aborginal creative tribe of India, streaching their hands out to reach the least straw for their survival and revival.

KNOWLEDGE OF VEDAS OF THE SHILPI CLAN

We have discussed earlier about the association of shilpis with the four vedas assigning each with Manu, Maya, Twashta and Shilpi and the fifth one with Viswajña. This is said to be PRANAVA VEDA. This name occurs in Skānda purana and in the biography of the Viswakarma community. The Bhāgavata Mahā Purāna attests to the erst-while existence of Pranava Veda when it says unambiguously

'eka eva purā veda, pranavo sarva vānmayah'

एक एव पुरा वेद प्रणवो सर्ववाङमयः

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which means that 'once upon a time there was only one Veda, called 'Pranava Veda'. What strikes me at this context is this: This four Vedas of today, during Lord Krishna's days were assumed to be three, the Atharva Veda being singled out.

In the knowledgeable shilpi-circles the talk had been that the Atharva Veda should have included Sthāpatya Veda or Vāstu Veda in its body. But my impression is that all the four Vedas together with Sthāpatya Veda should have existed under one common name, that is Pranava Veda, in the remote past, because I find the essence of the four Vedas actually in action in the Sthāpatya Veda. This view I have to have on account of Atharva Veda going under the name of one Maharishi called Atharva and the rest, not by any other human name, thus attesting to their being collected from a major source. Atharva Veda, according to Dr. S. P. Sabharathnam, a scholar and researcher in Veda, Agama and Shilpa shastras, was considered as the Jyeshta Putra / elder brother of the Vedic family, implying thereby its earlier comprehensiveness and remote origin or existence. I am doing further research in this direction. This is

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because, the Sthāpatya Veda has recognized a basic and common structure for all the animate objects of the universe, including humans, for their evolution and emergence into objects of the world of reality. I find this Veda to be the extension of the science of manifestation. Futher I find that the universe is subject to a mathematical formula and Architecture is yet another manifestation.

It is held in the Sthāpatya tradition that the legendary Mayan was the progenitor of the Vāstu shilpa tradition. During the days of the Puranas, Mayan was addressed as the shilpi of the South and Viswakarma as the shilpi of the North though there lived no shilpi by that name Viswakarma. The authorship of the 18 puranas is attributed to Veda Vyasa. But the same Vyasa in his Mahābhārata introduces Maya to Arjuna as Viswakarma himself based on his unique scientific theories and application in art and architecture. Under the conflicting versions, the traditional view is that Mayan was of South Indian origin, migrated to North India and went to different countries just to popularize his Sthāpatya Veda. It is his inimitable

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knowledge, wisdom and expertise in Art and Architecture that brought him the creditable title of 'Viswakarma'. Mayan himself says in the Sabhā parva of Mahābhārata', "aham hi viswakarma vai dānavānām mahā kavihi', which reads "I am Viswakarma, the great poet of the Danavas". From this it is evident that Mayan must have been called 'Viswakarma' in the North and "Mayan" in the South. Vālmiki, in his Ramayana introduces him as 'Mahatejasvi and 'Māyāvi' implying thereby that he was a great scientist and highly skilled in designs. We have not come across an individual of Mayan's attainment either in epics and puranas as far as this kind of science and technology on Architecture and Town Planning is concerned.

"Mandodarīm maya sutām parineeya dasānanaha"
Rāvanā married Mandodari, the daughter of Maya.
— Rāmodantam

Further, in Silappathikaram, the Tamil epic of 2nd century A.D. Maya is revealed to us as the 'tradition builder'. In the words of the author of the epic, by name Ilango Adigal, showing his own craftsman of Tamil country some artefacts collected from the north, one king of Chola origin says :

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"நுண்வினைக் கம்மியர் காணா மரபின
மயன் விதித்துக் கொடுத்த மரபின இவைதாம்"

"Nun vinaik kammiar kāṇā marabina
mayan vidittu kodutha marbina ivaidām"

"These artefacts, you, the skilled craftsmen, should know that they were produced according to Mayan's tradition".

It may not be out of place to mention here in this context about my having conducted an International Seminar on the science and technology of Mayan in Madras in 1993 where I introduced Mayan to the international scholars, revealing his identity as a human being and not a mythical being as described in the puranas. The repeated mention of his name in the epics and puranas of this country only emphasises his remote antiquity. I also revealed the essence of the Vāstu Science and introduced him as the author of Mayamata Vastu shāstra which is still in currency. In the same seminar, he was identified as the very author of one ancient work on the science of Astronomy called Sūrya Siddhānta, throwing a flood of light on the internal evidences

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occurring in the very text itself. The commentators overlooked him merely because he was called Mayāsura, not knowing that the asurās were of a stock endowed with enormous physical, intellectual and spiritual strength. They have taken, it seems, the popular view of the puranas, not knowing that Indra, the leader of the devaganas, himself was described as Asurā in Rg Veda. Also Varuna and Mitra were all Asuras. One eminent Engineer, by name Mr.Karnik of Pune (Managing Director of 'Karnik Consultants and Computer Engineer' Pune and U.S.A.) who had done deep research in Sūrya Siddhanta, was able to convince the gathering, by identifying him to be Mayan of our discussion, though he assumes that he might have come to India from South American Continent, contrary to Indian traditional views. In his own words :

"The Sūrya Siddhānta is a very neglected astronomical text. Not only is it neglected but it has been maltreated as possibly no other text has been maltreated. The number of revisions, interpolations and mutilation is enormous. On top of this all kinds of motives have been attributed for its composition

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and there are a number of authors who are supposed to have written it, except the Maya. The paper tries to rectify this gross error and places the writings of Maya in the correct perspective for guiding the future investigator".

"The great asurā named Maya, the father of Mandodari and father-in-law of Ravana obtained through deep study, the knowledge of the movement of the planets and other heavenly bodies at around the end of Krtayuga, which is about 16,000 years ago. This knowledge was then taught by him to the great sages of that ancient time, who knew only the Vedanga jyotisa and thus did not know about the planetary motions".

"Mayāsurā was from South American continent, his people were very well conversant with the navigation on the high seas and made frequent journeys around the world. These facts reflect in the text of the Sūrya Siddhānta. The Maya knew that the earth was round, knew how to map it, started the week of seven days with the names of days of the week as are being used even now, besides the astronomy, spherical trigonometry, sine functions, use of radians as

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measure of angle, why the earth appears to human beings as flat like a wheel and a host of other things which were not known to the modern world until a few centuries ago, 16,000 years ago. Even the modern high technology application of simulation was known and was practiced by him, in the astronomical computations".

"There is a wealth of knowledge in Sūrya Siddhanta which the modern astronomers have yet to find out. There is also a wealth of information about the culture of the Māyan people in it waiting to be investigated and used for exploration of the human history"

"There are many speculations about who wrote the Sūrya Siddhanta. The authorship of this text has been attributed to Varahamihira, Āryabhata, to some unknown Greek residing in Rome and to quite a number of forgers after the 10th century. We have not yet seen any one saying that this Sūrya Siddhanta has been authored by the great Mayāsurā, the father of one of the highly venerated women Mandodari and father-in-law of Ravana, although the text very

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unambiguously states that it was he himself who is responsible for it"

In March 1995, I had been to Mexico, the Māyan land where I was taken to a place called Machu picchu, a Peruvian site on 21st March, the equinox day, which is the indicator of the upward movement of Sun from the equator. I studied the scientificity of the structure of the Māyan pyramids and buildings and also saw the appearances of the divine serpent on the pyramid on 21st March. The pyramid is so oriented that at 5.20 p.m. the light of the setting sun fell on the balustrade of the pyramid, giving the impression of a luminous serpent, moving down from the crest of the pyramid and touching its bottom, where there is a head-part of the stone-made serpent, to complete the phenomenon and finally the serpent retracing its steps and disappearing into the space, after about 15mts. This occurs every year on that particular day. To see this astronomical phenomenon, there was a very huge gathering of Americans and Europeans. I was led to the scene of occurrence by an American Architect and an Engineer, who sponsored the study visit. I was

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wonder struck with Māyan's mastery over the knowledge of the movement of Sun and the Earth.

I stayed with them in Māyan land for 15 days visiting select places of Mayonic culture. My general impression about the Māyan of Mexico and Mayan of India was documented by an American team of videographers. I did speak and establish the connection between the two Māyans. They were overjoyed to hear the logic behind unifying these two geniuses of the ancient world. I met the leader of Māyan race (The Māyans are in millions) and collected particulars about his calender and identity. I have proposed to invite him to the 2nd International Seminar on Mayonic science and technology, January 1997, to be held in Kerala co-sponsored by the local Viswakarmas. Mr.Humbatzman, the leader of the Māyan race, is a Professor of Art and Architecture in the University of Mexico. He is working hard to revive the Mayonic culture and civilization which were destroyed by the Spanish invasion.

On return to Hawaii for a function, I was interviewed by the editor of a magazine of

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international reputation and world-wide circulation - "Hinduism Today". I gave them some glimpses of my own discoveries in the Māyan land, reserving some more points of attraction for the proposed International Seminar. I am happy to reproduce the text as it appeared in the June issue 1995. This article has evoked nation wide interest among the American scholars and felt as though it added another dimension to their research. My approach was scientific and technological not historical or racial.

The following is the text of the article appeared in the **"Hinduism Today"** of June'1995

Master Builder Uncovers Striking Similarities In Indian and Incan/Mayan Sacred Structures

Ancient Architects Employed Analogous Design Doctrines and Masonry Methods

"Sri V. Ganapati Sthapati", read Deva Rajan's fax to our Hawaii editorial office from Machu Picchu high in the rugged Andes Mountains of Peru, South America, "has just measured with tape, compass and a layout story pole, two ancient Incan structures at Machu Picchu: a temple and a residence. He has confirmed that the layout of these structures, locations for doors, windows,

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proportions of width to length, roof styles, degree of slopes for roofs, column sizes, wall thickness, etc., all conform completely to the principles and guidelines as prescribed in the *Vastu Shastras* of India. Residential layouts are identical to those found in Mohenjodaro. The temple layouts are identical to those that he is building today and that can be found all over India."

These startling discoveries came during a March, 1995, visit of the master builder to the ancient Incan and Mayan sites of South and Central America. Ganapati Sthapati is India's foremost traditional temple architect and perhaps the first true expert in sculpture and stone construction to personally examine these ancient buildings. To do so has been his dream since the 1960's.

Mayans

Sthapati is the architect of the San Marga Iraivan Temple being built at Kauai Aadheenam, Hawaii, home of HINDUISM TODAY. To fulfill this life-long ambition to visit the Mayan and Incan sites, our publisher, Satguru Sivaya Subramuniyaswami, arranged for California builders and architects Deva

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Rajan and Thamby Kumaran to accompany Sthapati on a three-week trip through South and Central America. "Like boys on holiday", they described their exciting trek of discovery which began 11,000 feet high in central Peru at the famed Incan site of Machu Picchu which remained hidden until 1911.

It is Sthapati's theory that Mayan, the creator of Indian architecture, originated from the Mayan people of Central America. In Indian history, Māyan appears several times, most significantly as the author of *Mayamatam "Concept of Mayan" which is a Vastu Shastra, a text on art, architecture and town planning. The traditional date for this work is* 8,000 BCE. *Mayan appears in the Ramayana* (2000BCE) *and again in the Mahabharata* (1400BCE) — in the latter he designs a magnificent palace for the Pandava brothers. Mayan is also mentioned in *Silapathikāram*, an ancient Tamil scripture, and is author of *Sūrya Siddhanta*, one of the most ancient Hindu treatises on astronomy.

The fundamental principle of Mayan's architecture and town planning is the "module". Buildings and towns are to be laid out according to certain multiples

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of a standard unit. Floor plans, door locations and sizes, wall heights and roofs, all are determined by the modular plan. More specifically Mayan advocated the use of an eight-by-eight square, for a total of 64 units, which is known as the Vāstu Purusha Mandala. The on-site inspection by Sthapati was to determine if the Incan and Mayan structures did follow a modular plan and reflect the Vāstu Purusha Mandala. He also intended to examine the stone working technology — his particular field of expertise.

Sthapati was born in 1927 into a family whose ancestors, members of the aboriginal creative tribe of Viswakarmas, built the great temple at Tanjore in the 10th century CE at the request of Raja Raja Chola. He learned the craft from his father, Sri M. Vaiydyanatha Sthapati and his uncle, Sri. M. Sellakkannu Sthapati. He spent 27 years as head of the Government College of Architecture and Sculpture in Mahabalipuram, Tamil Nadu, and is responsible for India's significant resurgence in the ancient art of stone carving. After his retirement in 1988, he continued building temples and founded the Vāstu Vedic Research Foundation to explore the ancient origins of the temple craftsmen. He

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is responsible for the construction of dozens of temples in India, plus others in Chicago, Washington D.C., Kentucky, Boston, Baltimore, San Francisco, and Hawaii in the USA as well as in the UK., Singapore, Fiji, Malaysia, Mauritius and the Seychelles.

Machu Picchu

The moment Sthapati approached an ancient Incan residential building at Machu Picchu on March 15th, he pointed at the wall and said. "That is a thickness of one "kishku hasta" — 33 inches, a standard measure in South India first promulgated by Mayan. He proceeded to measure the buildings in detail and discovered each was indeed built on a module-based plan following the system of Mayan's eight-by-eight squares. The module method was followed within small fractions of an inch, according to Thamby Kumaran, who was taking the measurements. The buildings were oriented towards certain points of the compass, also a principle of Mayan, rather than randomly placed. Also the lengths of buildings were never more than twice their width, as Mayan stipulated.

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From Machu Picchu the three adventurers traveled to Saqsayhuman, an Incan site dated from 400 BCE to 1400 CE. Here are the famous stone walls made of rocks weighing up to 160 tons and fitted together so expertly that a knife blade cannot be put in any joint. "Nobody knows how these stones were put in place", offered their guide when they first arrived on the site. Sthapati politely differed, and pointed out the insets chiseled into the base of many stones, as well as small knobs left on their faces. "These are for the use of levers, the exact same system we continue to use in India to move large stone. Thirty to forty men can move these very large rocks with this method", he explained to the guide's astonishment.

He could see other details of the stone working were identical to what is practiced in India, such as the method of quarrying stones by splitting off slabs. So too was the jointing and fitting of stones, the use of lime mortar, leveling with a plumb line and triangle, and the corbeling for the roofs. Corbeling is the method by which stones are drawn in layer by layer until they meet or nearly meet to allow a roof slab

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to be placed on top. Sthapati considers the similarity of this technology to that used in India to be very significant. The use of the horizontal lintel and the absence of the arch are additional noteworthy points of correspondence between the two traditions.

Land of the Māyans

From the high Andes the threesome flew to Mexico's Yucatan peninsula. They and forty-five thousand other Māyan *aficionados* arrived at Chichen Itza in time for the summer equinox on march 21st. At the moment of sunset on the equinox, a shadow is cast by the steps of the Pyramid of the Castle upon the side of the staircase to the top. The shadow creates the image of a serpent's body which joins a stone carving of a serpent's head at the bottom of the stair case. It is a stunning demonstration of Māyan astronomical and architectural precision.

Archaeologists, tourists and New Agers all gathered for the event, each with their own agenda. Since the publication of "The Māyan Factor — A Path Beyond Technology" by Jose Arguelles, the Māyans and their advanced calendar, astronomy, philosophy and architecture have enjoyed a wide

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following in the West. Sthapati too has found much of interest in Arguelles book.

Standard academia archeologists consider the New Age interest as bordering on superstition and refuse to even talk to anyone partial to Māyan mysticism. A recent book, *Copan and Tikal, the Secrets of Two Cities*, by Honduran author Ricardo Agurcia Fasquelle and archaeologist Juan Antonio Valdes of Guatemala, claim that the Māyan pyramids were actually castles for the wealthy and that what were once thought to be monuments to the Gods were in fact tributes to the dynasties of various kings. Not likely.

Native Māyan teachers such as Hunbatz Men, whom Sthapati met while in the Yucatan, are taking advantage of the interest to spark a revival of the original Māyan religion among the Māyans themselves. Since their brutal conquest and forced conversion to Catholicism by the Spaniards in the 16th century, Māyans have lived an oppressed and impoverished existence.

Amidst the crowds, Sthapati, Deva and Thamby again unsheathed their tape measures and closelv

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examined the Pyramid of the Castle. It too conformed to the Vastu Vedic principles of Mayan. The temple structure at the top was exactly 1/4th of the base. And the stepped pyramid design derived from the three-dimensional extension of the basic eight by-eight grid system. The temple room at the top was also modular in design, with the wall thickness determining the size of doorways, location of columns, thickness of columns and the width and length of the structure.

Most interesting was the name of this structure — "chilambalam," meaning a sacred space. It is Sthapati's theory that the Māyans worshiped the very concept of space, specifically a space made according to the modular system. This same idea is found in Hinduism in the sacred room in the centre of the *Chidambaram* Siva Temple in South India, where space or ākāsa is worshiped—there is no idol. *Chidambaram,* Sthapati finds suspiciously like *chilambalam,* means "hall of consciousness". The concept of sacred space is at the center of the mystical shilpi tradition of India.

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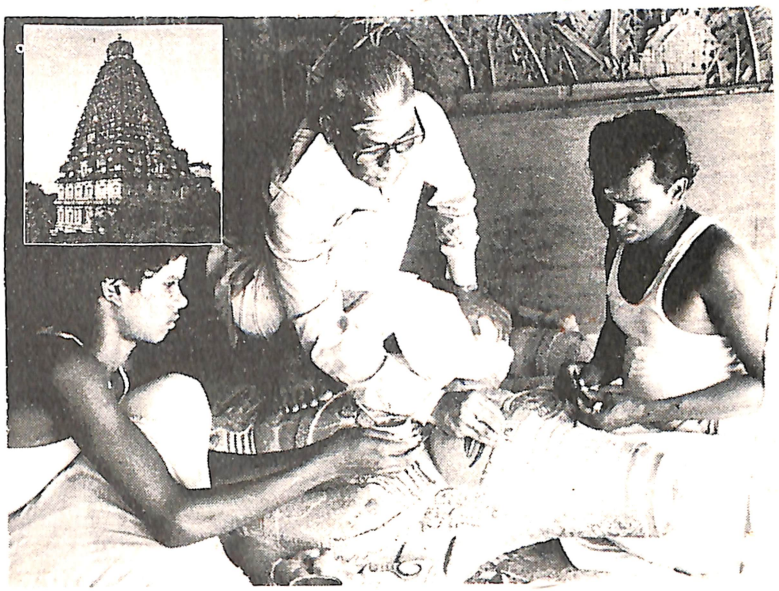

Ganapati Sthapati at a workshop in South India. He is directing the finishing touches on a Deity statue by applying red colour where the carvers should continue to remove stone. *Inset* : The great Siva temple at Tanjore was built a thousand years ago by Sthapati's direct ancestors.

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Round Incan observatory in Peru follows the modular plan

I. The Technical Similarities

Stone workers in Bangalore, India, quarry and move huge granite blocks with no more than chisels, hammers and levers. *Inset:* The same method is seen on the unfinished stone left behind by the Incas of Peru.

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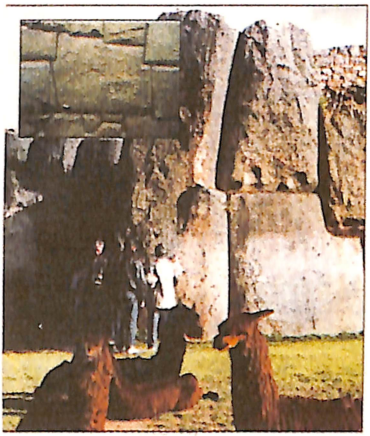
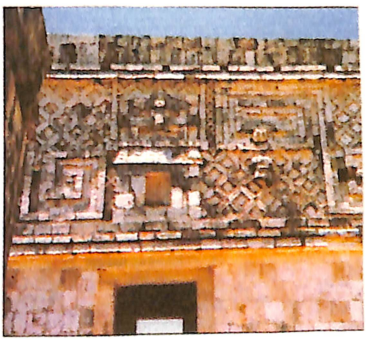


Above Left: This Incan wall shows evidence of superb stone fitting, leveling and moving which are still used by India's stone workers. *Above Right:* Example of corbeling in a Mayan building. The same method is evident in Mohenjodaro construction.

II. The Symbolic Similarities



Above Left: A "fertility stone" at a Mayan site of Uxmal, now tilted but essentially identical in form and symbolism to a Siva Lingam. *Above Right:* On the wall can be seen the modulated spiral [see text], known in Hindu design as the bindu. A snake is also incorporated in the bindu at right. Numerous other ornamental elements have close parallels in South Indian sculpture, and, according to Sthapati, the same esoteric meanings.

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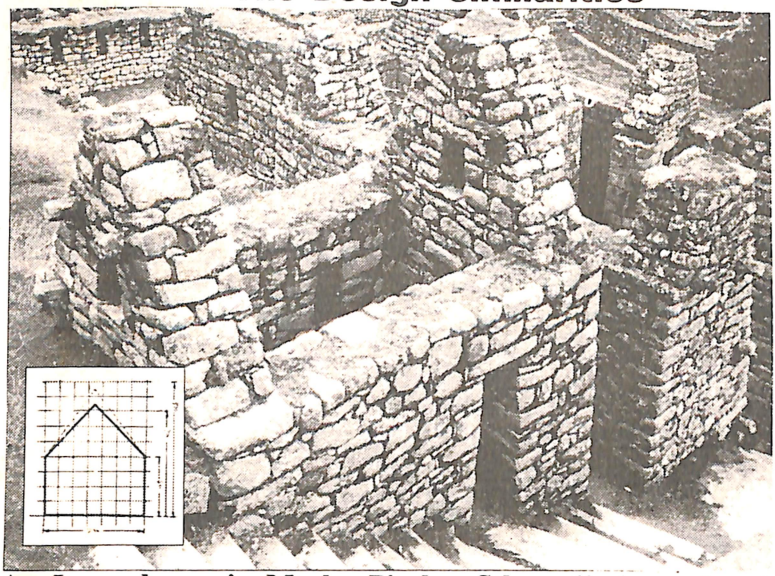
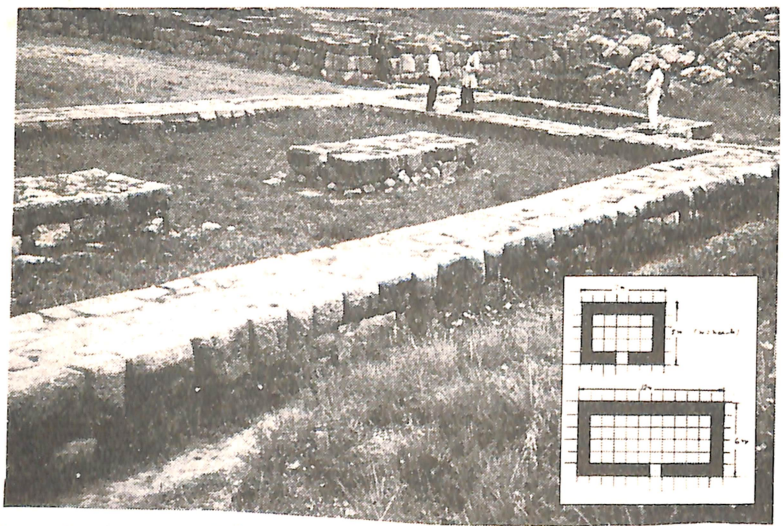
III. The Design Similarities



An Incan house in Machu Picchu. Sthapati's inset drawing shows how the roof pitch follows Vāstu Vedic principles.



Foundation at Machu Picchu with Sthapati's drawings showing the modular layout (see text).

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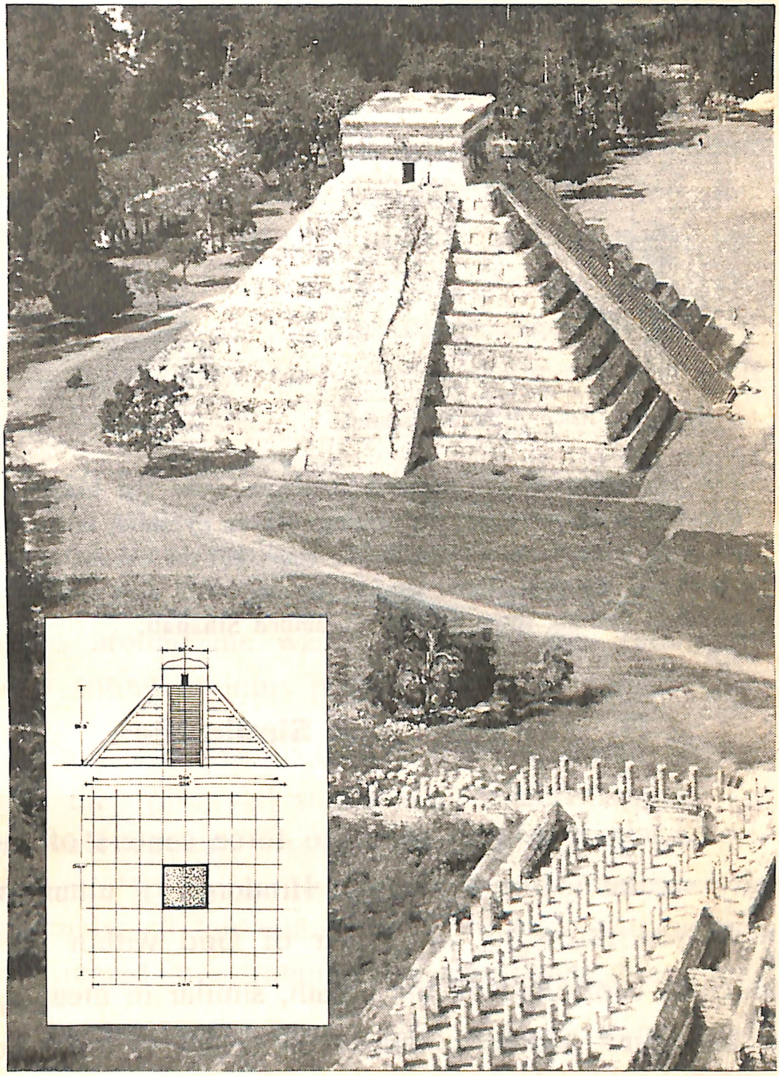

The Toltecan area of Chichen Itza showing the Temple of the Thousand Columns and the Pyramid of the castle. Inset: How the Pyramid of the Castle is based on a modular system—the top structure being exactly one-quarter of the base.

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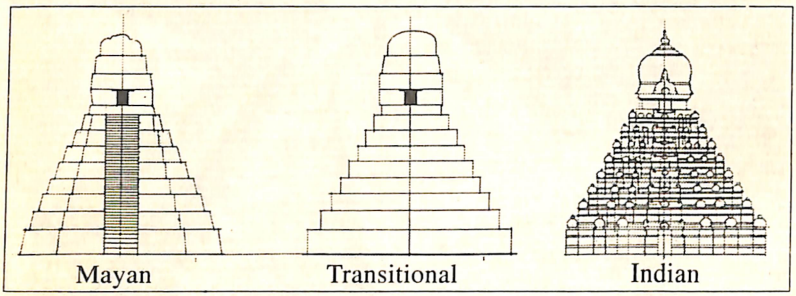

The evolution of the vimāna structure from the Mayan pyramid in three stages: the original Mayan pyramid, (a) the pyramid with straight sides on the steps, (b) the ornate, but essentially identical Hindu temple vimāna, (c) "I didn't cheat at all in making these drawings", smiled Sthapati.

IV. The Linguistic Similarities

Chacla in Mayan refers to force centers of the body similar to the chakras of Hinduism. K'ultanlilni in Mayan refers to the power of God within man which is controlled by the breath, similar in meaning to kundalini. Mayan chilambalam refers to a sacred space, as does Tamil Chidambaram. Yok'hah in Mayan means "on top of truth," similar to yoga in Sanskrit.

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Mayans

The richly decorated Mayan buildings provided a feast for a sculptor's eye. There is a very common feature called a "mask" by the archeologists, but known to the Mayans as "Big Nose". A nearly identical face is a common feature of Hindu technography, seen, for example at the top the arch placed behind a deity. "It is the very same thing in India." chuckled Sthapati, "we call it 'Maha Nasi' — "Big Nose!" Several other details of the sculptures were similar or identical to India, such as the earrings, ear plugs, teeth, head dresses, even buckles around the waist. There are *bas reliefs* of priests sitting in lotus posture and meditating.

From Chichen Itza, they traveled on to Uxmal where they observed snake and "bindu" designs on the wall faces. They were astounded by the thousands of pyramids at Tikal and Uxacturn in Guatemala, all laid out to conform to a grid pattern and oriented in astronomically significant directions.

As in Mayan buildings, Indians have been using lime mortar for all of their stone and brick buildings. This can been seen in the monumental creations in Mahabalipuram and also in the stone temples of Tanjore and Gangai-konda Cholapuram in Tamil Nadu. The outer surfaces were plastered,

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embellishments worked out in lime mortar, then painted. This method was strongest among the Mayas at Tikal and Uaxactun, where all of the structures once had a plaster coating painted with many colors.

What is the Connection?

Sri Ganapati Sthapati postulates, after deep thought from his journey to the land of the Mayans and a life-time study of South Indian architecture, that Mayan, the divine architect of Indian tradition, came from Central America. Ancient Tamil literature speaks of lands to the south of India 30,000 years ago, at the time of the first Tamil Sangam. According to scientists 160 million years ago India did lie physically close to Africa, South and Central America, but has since moved away as a result of continental drift. At that date, it would have been dinosaurs and not Mayans who wandered from the America to India, but perhaps the time frame for the continental drift is not correct. Architecture aside, there are significant similarities between Hinduism and the native religions of both Africa and the Americas.

There are other explanations. The simplest is boats. In 1970 the Norwegian Thor Hyerdal sailed a reed boat from Africa to the Americas in 57 days using no modern equipment. The boat, Ra II, was built for him by the Aymaro Indians of Lake Titicaca, Peru, neighbors of the ancient Incans. The double-hulled

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catamarans of India are also capable of long sea voyages. Historians discount contact between ancient people, but many cultures, such as the ancient Hawaiians, had remarkable sea-faring skills.

Perhaps the coincidences of stone working are just that, coincidence — a favourite "explanation" of archeologists. Stone workers will discover the same techniques naturally, without need for outside help, they say, and can point to historical incidents of simultaneous discovery. But this explanation hardly accounts for the similarities in motifs and modular design.

Another explanation is mystical — that Mayan, who is a divine being in Indian histories, appeared to both peoples. He could have conveyed the knowledge through visions and dreams.

Sri Ganapati Sthapati is vigorously continuing his research and is open to suggestions from HINDUISM TODAY readers. Any information you may have on the similarities of the two cultures may be shared with him by writing to:

Vāstu Vedic Research Foundation, Plot A-1, H.I.G. Colony, 1st Main Road (New Beach Road), Thiruvalluvar Nagar, Thiruvanmiyur, Madras 600 041, India.

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The Vāstu Vedic Tradition

V. Ganapati Sthapati spoke eloquently during our interviews of the deep mysticism of his tradition. Here is an excerpt from his paper. "Synthesis of Science and Spirituality in the Vāstu Vedic Tradition of Art and Architecture".

The Vāstu Shilpa tradition of Indian origin has made a scientific approach to the problems of spirit and spiritual realization. This scientific tradition of Vāstu perceives Shakti [energy] as all pervasive and as the causal substance for all the manifestations of visual and aural phenomena in the universe. They have named their Shakti as *Paravastu* in Sanskrit and the universal objects as *Vāstu*. The word *Paravastu* means the quintessence or the ultimate substance. This phenomenon of Vastu and Vāstu can be equated to gold turning into gold ornaments, the shilpi acting as the agent for the transformation. Further, this Vastu is recognized by the Vāstu tradition as one dwelling in the inner space of individual beings as well as in the outside space, the universal being. The

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science says that it is space, because of its self-propelled vibration, that turns into forms—the vibration force acting as the working agency. To do this is its unquestionable nature. This agency is designated as Absolute Time emerging out of space. This is analogous to the vibration of the instrument of the vīna developing into sound space. Here, sound space turns into sound form, and this when set to rhythmic vibration turns into musical form.

There is also another space responsible for the sound space. It is called luminous space. This pervades the entire universe (cosmos). This is the ultimate space wherein lie the Absolute Time and Absolute Energy. This is filled with luminous substance (Vastu) consisting of Paramanus, the minute particles of space. This luminous space is supersensitive, capable of becoming conscious of itself and vibrating into objects that it becomes conscious of. This action is its intrinsic nature and responsible for the forms that occur in the inner space of individuals as well as in the outer space of

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the universe. The experience of this form, in terms of space, is Spiritual Vision. This phenomenon is nothing but abstract science held by the Vāstu tradition.

The Vāstu tradition designates the inner being as Shilpi and the inner manifest subtle form as Shilpa, and as such the whole inner and outer universes are filled with shilpas. The gross visual forms are projected outside from the inside, by the inner being. This is the transformation of the subtle inner form into the gross visual, through the fingers exactly in tune with the subtle in terms of time and space. That "the sculptor becomes the sculpture and the poet becomes the poem" is therefore a powerful Vaignānic statement of the Vāstu Vedins, and it is of pure advaitic tone. The projected visual form has the touch of a lyric, depending upon the individual inner culture.

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5

Conceptual Frame of Vāstu Vidya

AIM OF ARCHITECTURE - To live in a built space in harmony with gross nature

Architecture, whether of Eastern or Western is primarily concerned with the design of living spaces. As such, there are two spaces common to both the traditions. One is the earthly space and the other is the enclosed space. The enclosed space, in this context, is the building which encloses what is called free space. While emerging out of the earthly space into a residential building, both the traditions provide living spaces such as bed room, kitchen, store room, drawing room, hall, etc. The ecological factors that should exist around the building are also taken into consideration in the design process. The object is to provide the inhabitant an ambience where he would live in harmony with gross nature, with respect to physical factors.

A UNIQUE SCIENCE OF INDIAN ORIGIN – Sthāpatya Veda / Vāstu Veda

But the science of Indian origin has a unique concept in respect of space-design, whether it is

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meant for a house or a town or a village. According to the Indian tradition, commonly known as Vāstu - Shilpa tradition, there are two other spaces of paramount importance and significance namely the inner space of individual being and the outer space of Universal Being. They are not gross or material spaces that we are familiar with, but they are subtle spaces, recognised to be the primary source of all that we see in the material universe. Such a concept is not found in any of the world traditions of art and architecture. Further, that such a concept is associated with the Vāstu tradition is not known to the contemporary generation, the world over. This is not exaggeration but a fact. This is because, the origin of this scientific concept is as old as human civilization, and hence not easily traceable. Further, this tradition was removed from the main stream of national life during the alien rule and on this account the values of the tradition had to remain in isolation and oblivion. Fortunately, we have the technology of Vāstu today, though not in full, but have lost the unique science of Vāstu and Vastu. In spite of these we have oral tradition to supplement and depend on. This is traceable and identifiable now here and there in technological expressions and formulae that we

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come across in the Vāstu texts. This science is too deep to appreciate and apply by uninitiated. It calls for personal involvement in the process of creative work and understanding of Indian science and culture at its core. It ranges in the realm of spiritual knowledge of the highest order. It is neither religious nor sectarian. It is spiritual and hence universal. In fact it is a Veda in its own right. It is therefore called 'Sthāpatya Veda' and more commonly by the term 'Vāstu Veda'. It is indeed the science of sciences, which fact you would presently see and appreciate.

LIVING IN HARMONY WITH SUBTLE NATURE – Dynamics of inner space merging with outer space, in numerical measure.

The concern of the science of Vāstu is to design a living space that would enable the occupant to live in harmony with the subtle nature. In other words, it aims at establishing a common factor among the inner space, the outer space, the built space and the earthly space in order that the occupant may live in perfect harmony with the subtle quality of the spaces and experience, what is called spiritual well being, bliss and peace. This is briefly denoted by the epithet of 'living in harmony with subtle nature'. This is achieved by the Vāstu technology by a mathematical calculation of a rare kind, where the inner space of

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human beings is made to merge with the universal space as well as earthly space. It is a mathematical approach to Vedic experience. Let me elaborate this science a little bit more, in this context.

SCIENTIFIC MESSAGE OF STHĀPATYA VEDA - Energy, vibration, rhythm and form-generation.

The science of Vāstu has identified a fact of supreme knowledge that the outer space is a space of energy capable of experiencing and vibrating the experience into a form. We, the human beings, enclosing a part of the outer space in our body are capable of vibrating our experiences into aural and visual forms which have their origin in two elemental substances of the micro and macro spaces namely 'sound' and 'light'. Further the science of Vāstu has established that in between the experience and expression, there is always a process of form - generation and form development, going on unnoticed in view of the swiftness of the elemental force of inner energy. According to Vāstu Science the vibrational measure of the outer or inner space is called KĀLAM (Time). This vibration, acting in between experience and expression is recognised to be the causal element of being and becoming.

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So it must be clear that Time is primarily responsible for the thought - form to emerge and turn itself into aural or visual form. This mechanics of form - generation and form - growth is noticeable in the vibration of a stringed instrument turning into musical notes and then into musical form. In short, it is the vibrative quality of the space that takes the creative role of form-generation in this phenomenon. This is the secretive scientific message of Sthāpatya Veda. Have you ever come across anything like this in any of the world traditions in architecture?

TECHNOLOGICAL APPLICATION OF TĀLA MEASURE

Further when we impose upon the vibration of the stringed instrument, a discipline or when we define the frequency of vibration in numerical measure, it assumes the technological name of 'rhythm', noticeable in dance and music traditions where rhythm is denoted by a term, namely 'TĀLAM'. This is a unit of time by which sound spaces get turned into orderly spatial form. This exercise gives a stable but a pleasing structural form to the sound spaces. The resultant musical form may be called 'rhythm bound sound form' or rhythmic spatial form. At this context, don't you feel that this is a building

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made up of sound spaces? Yes, it is indeed a building with walls and roof built of the material of sound. Hence the term speech-rhythm or சொற்கட்டு. To add to this, I would say, it is a 'sonic pyramid' that the sound structure falls into. This needs further elaboration, not now, but on a later occasion. This is another message of 'science of sound' attributed to the Sthāpatya Veda.

In this context, there is another subtle point to be taken notice of. The sound forms so created are tridimensional and hence volumetric in structure. Since sound is matter, the theory enunciated here, becomes complete in respect of the concept of the subtle energy trasforming into material form. I believe that you must be knowing that sound is matter though invisible.

THERE ARE TWO 'OMS' OUT OF WHICH MATERIAL FORMS GERMINATE

We have already seen that in as much as 'sound' is 'matter', the 'light' which is the source of sound is also matter. Light vibrates and sound is produced. The science of Vāstu has established another truth that this LIGHT is the source of all material or visual objects of Nature. It is indeed raw-

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material for all visual objects to take form. This 'light' is consciousness which is denoted by the word 'VASTU', according to the Sthāpatya Veda.

The theory governing the emergence of 'rhythm bound sound form' is extended to the creation of material visual form which at initial stage experienced at the level of inner space (luminous space) and then replicated into material form in the outside world of reality. So it must be clear now that all sound forms emanate from 'sound' and all material forms emanate from 'light'. There are two such streams of expression so far as inner experience is concerned. This has influenced the Vāstu vedins further to tread into another area of discovery of the primordial source of material forms as 'OM light' in as much as the material sound forms have their source in 'OM sound'. Is this not wonderful? Heard so far? any where? so precisely?

APPLICATION OF RHYTHM ON BUILDING FORMS

The science and principle of rhythm associated with musical structures is not only applied to create tangible material structures such as house buildings, temple edifices, and to town and village planning, but it is also extended to create imagic forms, dance

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forms and poetic forms. All these five faculties have originated from the theory of vibration of energetic space. Hence the Sthāpatya Veda, according to tradition, exists in or permeates the five fold faculties, namely - architecture, sculpture, poetry, music and dance. They are therefore individually considered as Vedas namely Vāstu Veda, Shilpa Veda, Sabda Veda, Gāndharva Veda and Nātya Veda, of which two fall under 'sound' and three under 'light'. They are collectively called Pranava Veda, as they originate from the elemental substances of OM sound and OM light. As such the word "Pranava" singinifies the principle of origination and growth into material forms.

HUMAN FORM IS BUILT OF RHYTHM

What is very significant in this context is that all plants and trees, birds and animals and every other animate object that we see in the universe, are governed by the theory of 'rhythm' and 'rhythm' bound forms' Even the birth and growth of human form and other heavenly objects are all governed by the same theory of vibration. At top of all, the universe itself is the product of the theory of rhythmic vibration of the primordial energy. This energy has therefore come to be called Vastu or Vasu Brahman.

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All objects of the universe are Vastus turned into Vāstus, thereby meaning that 'bodiless energy' turns into 'embodied energies', the causal element being the vibrative quality of energy, which is otherwise called KĀLAM, as discussed earlier.

The quality of 'Absolute Time' is precisely expressed in the following verse.

कालः सृजति भूतानि कालः सम्हरति प्रजाः
सर्वेकालस्य वशाकाः सकालो तस्य वशेस्थिताः

— Skānda

The meaning of this verse is—

It is Time that creates all objects of Nature
It is Time that dissolves everything so created
It is Time that holds everything in its hand and that Time rests in His hands.

This is supported by the science of Mayan, the progenitor of the science of TIME, author of Mayamata Vāstu shāstra and Sūrya Siddhānta, which is the most ancient work on the science of Astronomy.

"காலமே ஆக்கும், காலமே காக்கும், காலமே துடைக்கும்"

"It is Time that creates, sustains and dissolves".

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"காலமே எவைக்கும் மூலம் காலமே மூல ஆற்றல்
காலமே கோலத் தோற்றம் காலமே ஞாலத் தோற்றம்
காலமே விந்தைசெய்யும் காலமே நுணுக்கம் ஆயும்
காலமே அணுக்கள் ஆயும் காலத்தின் ஆற்றல் என்னே?"

— மயன்

Time is the source of all objects of Nature.
Time is the primordial energy.
Time is the visual forms. Time expresses itself into the form of the universe. Time does wonders. Time is subtle element. Time goes into fractional and numerical measures. How potent, the Time is!

— Mayan

It may be seen in this context that Sthāpatya Veda has a good stock of scientific truths that are interpreted in numerical measures in the Vāstu texts that we have today in India. Hence the pramanas of Vāstu texts are held to be very important, the violation of which would cause incalculable negative effects on human psyche leading to physical ailments.

Let me summarise a few of them for scientists and architects to ponder over. Some glimpses are found in the foregoing paragraphs, either openly articulated or implied in the disscussions.

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VĀSTU SŪTRĀS AND FACTS OF SCIENCE TO REMEMBER

I. 1. Time and Space are equal.
காலமும் இடமும் ஒன்றே.

2. There are two OMs - OM sound and OM light.

3. House building, by virtue of confining within its body the energetic space or Energy becomes a living organism capable of experiencing and vibrating into energy-waves from within. The basic wave pattern is called 'Vāstu Purusha Mandala'

4. Vibration of space or energy is Kālam, a generative principle of life and form.

5. All objects of Nature, including human form, are structured in musical rhythm or musical scale.

6. The Sthapati designs his buildings - from hut to mansion - in the same musical scale. Hence architectural edifices are extolled as 'frozen music'.

II. 7. It is Vastu, (bodiless Energy or substance) that turns itself into Vāstu (embodied energy). Vastu = Vāstu.

8. It is Vastu Brahman that turns into Vāstu Brahman. (Nirguna into Saguna / Nishkala

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into Sakala / unlimited into the limited / the unmanifest into the manifest).

9. The sculptor becomes the sculpture, the poet becomes the poem. This is the experience of the practitioner.

10. The Sthapatya Veda has limited the unlimited and expressed it in visual and aural forms. It has reduced the unlimited into the numerical measure of musical octave and taught the shilpis the way to create musical structures in visual forms.

11. The Vastu shastras contain measures arrived at from the foregoing concepts of Time and Space. These measures are made use of by the traditional shilpis for their creations such as house and temple buildings and layout of towns and villages. Even furniture and vehicles are measured in 'tala' terms and thereby the musical structure and associated musical flavour are brought into role in all their creations.

12. வீடு ஓர் உயிர்ப்பொருள். வீடு ஓர் இசை வடிவம். House building is a living organism; House building is designed into a musical structure.

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This is the quintessence of Sthāpatya Veda. Some more scientific theories such as "the dynamics of the spatial energy", "thoughts turning into number and number into thoughts", are all implied in the Vāstu measures found in the Vāstu texts. A faithful adherence to such measures and principles alone would help to cause the establishment of paradises on earth.

PURE ENERGY TURNS INTO MATERIALISED ENERGY. E =mc2.

Coming down to the day to day world, let us look into one more aspect related to modern science and see how the science of Sthāpatya Veda runs parallel to the highest concept of modern science and how it goes beyond physical limits and create spiritual forms for the human beings to experience spiritual peace and bliss. It is not exaggeration to say that where the modern science ends the Indian science starts. It has been so in existence right from the remotest antiquity.

Looked at from the view point of the science of Vāstu, Prof. Einstein's scientific formula $E=mc^2$ fits in very well with the concept of Sthāpatya Veda which, as described earlier, establishes a scientific sūtra - namely "Vastureva Vāstu" - meaning that it is Vastu (pure energy) that manifests itself into

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Vāstu (materialised energy). The speed of light referred to by Prof. Einstein conforms to the 'time-speed' - kāla mātra - as recognised by the Vāstu Veda. The velocity of light is the causal agency lying at the bottom of all creations in the universe. As 'light' is matter, rather the raw material, it is 'light' that turns into material form, according to traditional science. Hence, some times, 'light' is taken as God, though Time is the root cause, as discussed earlier, for the emergence of 'light', from which 'sound' flows and vibrates into sound forms. The mathematics lying behind this process of transformation is the mathematics of the creation of building vāstus (technically called prāsāda vāstus) in actual practice.

I would like to stress one point at this context. The uniqueness about the science of Vāstu is that it does not remain contented with the discovery Vastu and Vāstu nor does it merely rest in equating Vastu with Vāstu, but it helps the Sthapati to create new Vāstus with divine vibrancy and life. As such, the concept of 'Vastureva Vāstu' is applied in actual reality to produce living organic forms so that man may vibrate in perfect harmony with the built-spaces and enjoy the benefits of spiritual science.

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Can I say now that the mode of operation of the Vāstu technologist, the human Viswakarman is exactly the same as the Vastu Technologist, the Vedic Viswakarman?

CONCLUSION

The Vāstu shastras, that we have today, do not openly explain all these facts of science, as they happen to be technological in approach and treatment. The Vāstu shastras are full of essential measures, the faithful application of which would cause the birth of forms visually alluring and spiritually satisfying and elevating. So the Vāstu measures are held to be very very important in the design-process. Therefore the shilpis hold these as profoundly sacred and faithfully follow. To quote one instance, in support of this view that there is one particular Vāstu shastra, frequently consulted in the tradition, named Mānasāra, which means a treatise replete with "essential measures" or "essence of measures". There were also three more treatises called 'Māna vidhi', 'Māna bhodam' and 'Māna kalpam' in the past. This is because, in the numerical measures given in the shastras, the science of time and time units and spatial measures equated to

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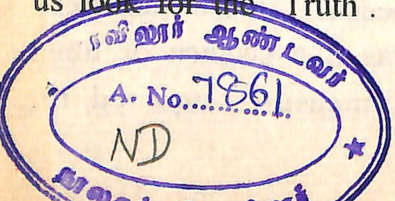
time-measures are embedded or implied in such a way that when they come to the plane of faithful technological application, they give shape to lovely forms (embodied energies) the association of which ensures for human beings a life, in harmony with gross and subtle nature. This is the conceptual frame of Vāstu Vidya. Is this not Brahma Vidyā? Are they not pritimas or reflection of the macro and micro universe? Is this not relevant today and relevant for generations to come? Yes, in English it is the eternal science of the ENERGY / SPIRIT and according to Sthapatya veda, it is the science of the Atman.

Since the modern mind is not aware of the science behind traditional practices, they raise such questions on public forums with none to argue with scientifically and logically. It is indeed my earnest attempt, which attempt is analogous to the attempt of the legendary squirrel in the bridging Bharat with Lanka. Let us, therefore, search for similar scientific truths in our own Indian traditions without bias or prejudice. Open mind and unprejudiced approach alone are required to identify 'truth' in all its nakedness. Let us look for the 'Truth'.



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SCIENCE OF MANIFESTATION

THE PROCESS OF MANIFESTATION OF ENERGY INTO FORM

ENERGY

Vastu / Porul / Brahman / Purushan / Vastu Brahman

Becoming Conscious
Pulsates/Vibrates/Blossoms into

KĀLAM / TIME

Kālam emerges as force and splits the energy into particles causing into existence the all-pervasive subtle space

SPACE

Light
(Quality of space)
ARTHA PRAPANCHAM
(material universe)

The Conscious space vibrates and turns and develops into

Sound
(Quality of space)
NĀDA PRAPANCHAM
(sound universe)

SPATIAL FORM

Material, visual form
ARTHA - SUBSTANCE
With source in Om-light

Diverging into two streams of self expression namely

Material, aural form
VĀK - UTTERED WORD
With source in Om-Sound

VISUAL FORM - AURAL FORM
Caused by the

Regulated vibration of light-space (light-rhythm) quantified into TĀLA-UNIT.

Rhythm bound spatial form.
(Architecture)
(Sculpture)

The spring board of all living forms

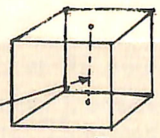
Layout of all structures

Regulated vibration of sound space (sound-rhythm) quantified into TĀLA-UNIT.

Rhythm bound sound form.
(Music)
(Dance)
(Poem)

Vāstu Purusha Mandala
8 x 8 = 64

Which is the
Primal manifest form of the unmanifest.



Cubical cell (Anu)

Micro abode (Anu)

PARAMĀNU

Thread of light / consciousness / ஒளி நூல்

BRAHMA SŪTRA

Based on this scientific, phenomenon starts the technology of Vāstu, for structuring its material forms.

☐ Square is the primal manifest form of the non-manifest. This is 'Sakalapada' / 'Ekapada' / unitary space without grid; with grid laid on it, is designated as VASTU PURUSHA MANDALA, signifying the inherent order in the structure of microcosm and macrocosm.

Interpreted by **Dr.V.Ganapati Sthapati**, Director, VĀSTU VEDIC RESEARCH FOUNDATION, Madras - 41, Ph: 4916563.

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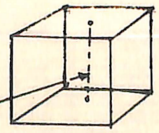

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Sabhūmim Viswato Vrutvā
Atya tishtad dasāngulam

ஞாலத்தைச் சூழ்ந்தும் அதற்குமேல்
பத்து அங்குலம் உயர்ந்தும் நிற்கிறான்

सभूमिं विश्वतो वृत्वा
अत्यतिष्ठद्दशाङ्गुलम् - पुरुषशूक्त